Annual Report of the Department of Industries, Bombay Presidency 1935-36

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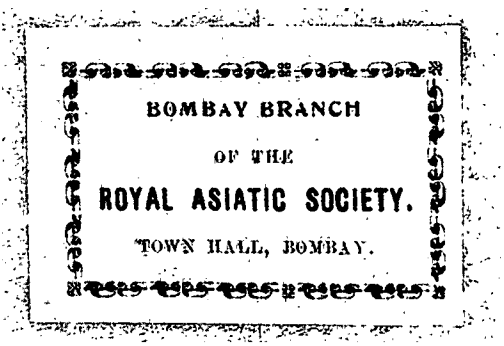

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Annual Report of the Department of Industries, Bombay Presidency, for the year 1935-36

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CHAPTER I

GENERAL INDUSTRIAL OUTLOOK DURING THE YEAR

The two adverse factors referred to in last year's report, namely the low purchasing power of the agriculturist and foreign—specially Japanese—competition continued to affect adversely to a varying degree many of our industries during the year.

It is true that there has been in the past two years or so an upward tendency in the prices of agricultural commodities. Further, the gap between the prices of agricultural commodities and manufactured articles has narrowed somewhat, thus improving slightly the purchasing power of the agriculturist. The extent of these desirable factors, however, has not been such as to make any appreciable difference to the local industries. On the other hand the Japanese competition in many manufactured articles has continued to be severe to the marked detriment of many of our minor industries. The imports of the various Japanese articles have not only steadily increased considerably in the last 3 years in the aggregate value but still more so in quantity.

On the whole the year under report showed no marked progress over the previous year either in trade or industry.

2. **Cotton Textile Industry.**—The condition of the industry during the year showed some improvement. The total number of mills in the Presidency was one more than in the previous year. In the city of Bombay there was one less mill than in the previous year. Several mills both in Ahmedabad and Bombay worked double shift. In January 1936 about 31 and 30 mills worked double shift in Ahmedabad and Bombay respectively. There was, therefore, an increase in production. The industry had under consideration during the year the question of control of production so as to avoid the harmful consequences of overproduction.

Up to the time of writing Annual Reports for 1935 were received from only 63 mills. It is, therefore, not possible to give detailed analysis of the exact state of the industry. The bulk of the reports received are from the Bombay City and Island Mills and they reveal the following position.

In the Bombay City and Island 14 mills showed losses of Rs. 22·56 lakhs while 29 mills showed a gross profit of Rs. 40·11 lakhs out of which only 13 could however declare dividends.

Generally annual reports of Ahmedabad mills are issued in the latter part of the year. It is, therefore, not possible to take a note of them in this report.

Taking the industry as a whole, it may be taken to have made fair progress during the year.

During the year 1935-36 the following rates of duty were in force :—

British.	Non-British.
25 per cent. *ad valorem* or $4\frac{3}{8}$ as. per lb. whichever is higher.	50 per cent. *ad valorem* or $5\frac{1}{4}$ as. per lb. whichever is higher.

The following statistical table covering cotton mills in the Bombay Presidency will be of interest :—

For the year ending 31st August.	Number of Mills.	Number of spindles.	Number of looms.	Average number of hands employed.	Cotton consumed.	Paid-up Capital.
					Cwts.	Rs.
1933 ..	220	6,468,794	142,591	252,417	5,690,692	23,83,18,186
1934 ..	219	6,401,422	144,730	227,929	5,115,775	23,09,08,818
1935 ..	220	6,248,812	144,642	248,671	6,210,848	22,69,26,845
Percentage increase or decrease as compared with 1934.	..	—2·3	—·06	+9·1	+21·4	....

Production in and Imports of Yarn and Piece-goods into Bombay Presidency

Year ending 31st March.	Yarn (in million pounds).			Piece-goods (in million yards).		
	Presidency Production.	Imports into the Presidency.	Percentage of imports to production.	Presidency production	Imports into the Presidency.	Percentage of imports to production.
1932-33	559	17·6	3·2	2,266	638	28·2
1933-34	485	9·6	2·0	2,025	437	21·6
1934-35	523	14·5	2·8	2,283	499	21·9
1935-36	549	19·2	3·5	2,407	488	20·3

3. **Woollen Mills.**—The woollen industry did not maintain its position of last year during the year under review. There were during

the year under report three woollen mills working in the Presidency of which one was started and commenced operations recently. There was a drop in the quantity and value of woollen goods produced in the local mills. Local production and imports were as under :—

Local production

Year.	Production in lbs.	Value in rupees.
1934 ..	2,062,674	33,76,145
1935 ..	1,742,386	28,10,304

Imports into Bombay and Karachi

Year.	Value in rupees.
1933–34	143·2 lakhs.
1934–35	228·7 ,,
1935–36	153·8 ,,

Apart from the above imports by sea, Bombay also imported a considerable quantity of woollen goods from Cawnpore and other important woollen manufacturing centres in India. Owing to competition with cheap woollen goods imported from foreign countries like Italy, Japan, etc. the condition of the Indian woollen industry was unsatisfactory. The Tariff Board had investigated the condition of the industry during the year 1934-35 and submitted its Report to the Government of India who issued their orders on the Report. The Government of India held that the claim for protection was not established. They have, however, decided to assist the handloom and small scale woollen industries by making a grant of Rs. 5 lakhs spread over five years to provinces where the industry exists.

4. **Hosiery.**—There was some improvement in this industry due to the increase in tariff on certain classes of knitted goods. Although the quantity of local manufactures increased considerably the value of imported knitted ware also showed a substantial increase which is the more marked when it is borne in mind that the price per unit registered a decrease over last year's figure. The woollen hosiery industry continued to suffer from external competition, especially with the mixed classes of knitted goods.

The following statistical tables give local production and imports of Hosiery :—

Local production

Year.	Production in lbs.
1931–32	480,000
1932–33	456,000
1933–34	487,000
1934–35	1,035,000

Imports of knitted goods, Bombay and Karachi

Year.	Value in lakhs of rupees.
1931–32	20·5
1932–33	28·34
1933–34	30·84
1934–35	37·37

5. **Silk fabrics.**—There was no improvement in the condition of the silk mills and factories and the competition from Japan became severe, specially so in regard to the cut pieces of silk cloth (fents) which with the lower incidence of duty were sold at a cut throat price. This price hardly covered the cost of raw materials to the local mills and factories. Government of India have now been pleased to raise the duty on all fents and it is hoped that this will assist the industry.

6. **Gas Mantle Industry.**—The year under report continued to be a bad year again for this industry. The value of imports of mantles during the year under report was about the same as in the previous year but the quantities imported were larger.

Imports

Year.	Value in rupees.
1933–34	4,93,918
1934–35	3,43,469
1935–36	3,47,422

7. **Chemical Industry.**—The chemical industry, except the heavy chemical industry, in the Presidency on the whole did fairly well during the year under report. The factory near Ahmedabad manufacturing acids, however, is reported to have done well. The Pioneer Magnesia Works at Kharaghoda continued reclaiming magnesium sulphate as a by-product and are considering the production of potassium chloride. The two pharmaceutical works referred to in last year's report did fairly well. The Karnatak Chemical Works at Gadag have recently undertaken experimental work for the cultivation of both indigenous and foreign plants which are required for the preparation of medical and other products they have put on the market.

8. **Sugar Industry.**—During the year under review one new sugar factory was started. In all there were 6 sugar factories working in the British Districts in addition to the 2 factories working in the Indian States of this Presidency. The total production of the 6 factories in the British Districts was 24,746 tons. In addition to the above sugar factories there were 9 Khandsari sugar factories working in this Presidency as against 7 during last year and the production of these was about 90 tons of sugar.

The imports of sugar into Bombay and Karachi during the year under report were 126,227 tons valued at Rs. 121 lakhs. The corresponding figures for 1934–35 were 133,000 tons and Rs. 125 lakhs respectively.

9. **Match Industry.**—During the year there were in all 13 match factories in existence. One of the old factories was closed and one new factory was started during the year under report.

The total production of these 13 factories during the year 1935-36 was about 5,532,363 gross match boxes. The imports of matches into Bombay Presidency were quite negligible and these were of fancy matches for advertisement purposes.

10. **Paper Industry.**—The two paper mills, one in Poona and the other in Bombay, belonging to the Deccan Paper Mills Co. Ltd. continued to work throughout the year. One paper mill in Bombay outside this group, which remained entirely closed throughout the last year, did not start operations during the year under report. The paper mill erected last year at Ahmedabad near Barejadi worked throughout the year. Thus three paper mills were working throughout the year under review in this Presidency. The production of paper increased from 3,069 tons in 1934 to 3,456 tons in 1935. The value also increased from Rs. 11 lakhs in 1934 to Rs. 12 lakhs in 1935.

Considering the general trade depression the paper industry of the Presidency did, on the whole, fairly well during the year.

11. **Glass Industry.**—One glass factory with a large capital started working in July 1935 at Dadar, Bombay, during the year under report. The factory at Mazgaon in Bombay which was under construction last year started operations in the beginning of the year. Another factory was started in Marol via Andheri for the production of glass bangles. The proprietors of the glass bangle factory at Kandivli, which was reported to be closed last year, built a new factory near the site of their old works which is expected to start work shortly. Excluding this factory there were six factories working during the year. It was mentioned in paragraph 36 of the Annual Report of this Department for 1931-32 that the question of protection to the glass industry was referred by the Government of India to the Tariff Board for investigation and that this Department had submitted a note to the Board on the glass industry of the Bombay Presidency for protection for glass globes, chimneys etc. The Government of India issued their orders on the report of the Board during the year.

They decided not to accept the recommendation of the Board for the claim for protection on the ground that the basic raw material, namely, soda-ash was not available in India and that no adequate source of Indian soda-ash had as yet been developed and that the industry for the present must depend on imported soda-ash. The Government of India decided,

therefore, not to take a final decision on the claims for protection until the possibilities of new sources had been more fully explored; they however decided to afford the glass manufacturing industry a certain measure of relief by way of refund of the Customs Duty on imported soda-ash. This Department was in consequence called upon to furnish to the Government of India information regarding the number of glass factories operating in the Bombay Presidency and the estimated annual consumption of soda-ash in these factories.

Owing to foreign competition the industry did not do well during the year.

12. **Oil Mills.**—There was no change in the number of oil mills registered under the Indian Companies Act during the year under report. The industry as a whole did well during the year. The oil extraction plant at Kalyan is reported to have worked satisfactorily during the year.

13. **Vegetable Ghee.**—The two vegetable ghee factories referred to in last year's report continued to work during the year.

The imports of vegetable ghee into India and Bombay during the last four years were as follows :—

Year.	India.		Bombay.		Sind.	
	Tons.	Rs. in lakhs.	Tons.	Rs. in lakhs.	Tons.	Rs. in lakhs.
1932-33	1,833	13·45	935	7·32	193	5·55
1933-34	132	1·03	65	0·48	4	0·083
1934-35	238	1·35	103	0·48	10	0·11
1935-36	257	1·65	51	·31	Not available.	

14. **Soap Industry.**—It is very difficult to keep a record of all the soap factories in this Presidency as most of them do not come under the Factories Act. It is, however, estimated that there are 60 big and small soap making factories in the Presidency. During the year under report Bombay exported about 1,034 tons of soap valued at Rs. 2·62 lakhs to foreign countries. There is a great scope for the development of export trade in soap. The big soap factory with the most up-to-date equipment at Sewri referred to in last year's report manufactured and placed on the market many of its well known brands. It installed a glycerine recovery plant which it is reported worked at full capacity.

15. **Engineering Industry.**—There were during the year 180 engineering concerns which come under the Factories Act as against 165 in the previous year. It is pleasing to note that the local shops are taking increasingly to the manufacture of machine spare parts, required in the textile, cereal, oil and handloom industries. There has been

a marked increase in the number of cereal cleaning and grinding mills and oil mills equipments turned out by the local engineering works.

A local firm has now introduced welded steel frame construction for building work. On the whole there was little or no improvement in the rather depressed condition of this industry.

16. **Wire and Nails Manufacture.**—One more factory was started during the year. The wire drawing machine required by this factory was locally constructed under the direction of the Industrial Engineer of this Department. The new factory will manufacture M. S. wire of all gauges and nails for local requirements. The industry had to meet severe foreign competition.

17. **Aluminium Industry.**—The trade in hollow-ware showed a very slight increase, although prices were not very remunerative. In the last report a reference was made to the cut-throat competition between local hollow-ware factories. It is pleasing to note that early this year an agreement was reached between four of the largest factories for marketing their manufactures on lines somewhat similar to those adopted by the Cement Marketing Board.

18. **Gold Thread Industry.**—In line with other luxury articles the market for this industry showed no improvement. The economic condition of the cottage workers was worse than last year. It is considered that for some considerable period there will be little or no improvement, and should other provinces take to manufacturing gold thread locally, competition would be intensified worsening the already critical market conditions. The quality of gold thread etc. manufactured continued to show steady improvement. It would go some way to help the industry if the different gold thread factories could form a marketing association and thus put a stop to the severe internal competition.

19. **Cigarette Industry.**—On the whole it may be stated that this industry showed some improvement. Some of the local factories installed improved cigarette machinery and showed increased production. Although there has been an increase in the local production of cigarettes it is considered that this falls far short of the Presidency's requirements.

The value of imports of cigarettes into Bombay and Karachi which had shown a progressive decline over the years 1931 to 1934 was in the year under report practically the same as in the previous year :—

Imports of Cigarettes

Year.	Value in lakhs of Rs.
1930–31	50
1931–32	22·74
1932–33	16·69
1933–34	9·50
1934–35	9·34

20. **Confectionery.**—There were 6 confectionery (including chocolates) manufacturing factories and 4 biscuit establishments as mentioned in last year's report. These factories suffered from internal cut-throat competition. The industry did not, therefore, do well during the year. Attempts to organise themselves into an association have been made but it has been found difficult to get all the members to abide by the terms of agreement.

NEW ENTERPRISES

21. During the year under review several new factories were established in the Presidency. Some of these are establishments for the manufacture of interlocking rolling steel shutters, ink, manufacture of chemicals, decorated and plain tin boxes, printing on tins and tin containers, metal capsules, oil engines, soaps, re-threading old motor car tyres, rubber goods, fancy silk lace borders etc. Where necessary, the names of the new factories were brought to the notice of the Directors of Industries in other provinces and other Government Departments and commercial bodies likely to be interested. Some of the new industries are reviewed here below.

22. **Rolling Steel Shutters.**—A firm of expanded metal suppliers started the manufacture of interlocking revolving steel shutters suitable for shops, godowns etc. according to the Kinner pattern English shutters. These shutters, it is claimed, ensure easy and straight rolling, take less space, and are strong and durable. Large numbers of shutters have been supplied to local markets and institutions.

23. **Inks.**—A small factory was established in Nasik for the manufacture of all sorts of inks. The factory started working in October 1935.

24. **Manufacture of Chemicals.**—A factory was started in Karachi for the manufacture of chemicals on a small scale. The factory started working in February 1936. Their products are in demand locally at present.

25. **Tin Boxes.**—A factory which is more or less an assembly plant of the main factory in Calcutta has been started in Bombay recently for the manufacture of decorated and plain flat and round tin boxes suitable for confectionery, biscuits, cigarettes, tobacco, oils, dye stuffs etc. The factory is equipped with up-to-date machinery and turns out well finished articles.

26. **Metal Capsules.**—A factory was established in Bombay for the manufacture of metal capsules. The factory also contemplates manufacturing in the near future crown corks, collapsible tubes and seals for which provision is made for extension of works by installation of new machinery.

27. **Artificial Silk Cloth Weaving.**—A weaving mill with a finishing plant for making only artificial silk cloth started work during the year. The proprietor is a practical worker and himself supervises the working of the factory.

28. **Re-threading Old Motor Car Tyres.**—A new factory which is the first of its kind in this Presidency was established in Bombay for re-threading and re-conditioning old motor car tyres. The factory is well laid out and contains the necessary machinery equipment. Another similar factory is expected to be established shortly.

29. **Articles manufactured from Rubber.**—A company in Bombay which has been manufacturing tricycles and baby cars for the last several years and which had to depend on foreign supplies of solid rubber tyres in connection with its tricycle manufacturing business has recently put up a factory for the production of tricycle solid tyres, rubber soled canvas shoes, rubber shoes and rubber chappals or sandals. For the present it manufactures sandals only but the manufacture of some of the other goods mentioned above, is contemplated in the near future as the company has enough resources at its disposal.

30. **Lace Borders.**—A factory was established in Bombay for the manufacture of fancy artificial silk lace borders which are considered to be in great demand. The articles turned out are of cheap quality and appear to be good.

31. **Tin Printing.**—A factory was established for printing on tin sheets. The factory can also turn out tin containers and printed tin calendars. The tin sheets used are of Indian manufacture.

32. **Rolling of Copper Sheets.**—A local hollow-ware factory installed a rolling mill for rolling copper sheets from local copper scrap and copper pig mixing. The sheets manufactured would be consumed for their own hollow-ware manufacture.

33. **Expanded Metal.**—A local constructional factory installed machinery for making expanded metal locally. Up to the present, all the local market's requirements have been imported. It is expected that the factory would be marketing its production very shortly.

NEW FLOATATIONS

34. During the year under review many new companies were floated. These are : 2 silk mills with a total authorised capital of Rs. 3·10 lakhs, 3 rubber factories with a total authorised capital of Rs. 6 lakhs, 4 Ginning and Pressing mills with a total authorised capital of Rs. 30 lakhs, 9 Cinema producing companies with a total authorised capital of Rs. 15·30 lakhs, 5 Cotton mills with a total authorised capital of Rs. 39·25 lakhs,

15 Printing and publishing presses with a total authorised capital of Rs. 30·80 lakhs, 1 flour mill with a total authorised capital of Rs. 1 lakh, 2 mining and quarrying companies with a total authorised capital of Rs. 25·20 lakhs, 1 company established to conduct exhibitions and fairs with a total authorised capital of Rs. 1 lakh, 8 electrical undertakings with a total authorised capital of Rs. 14 lakhs. One company to manufacture steel instruments with a total authorised capital of Rs. 2 lakhs, 3 companies to manufacture electrical goods with a total authorised capital of Rs. 12·50 lakhs ; making a total authorised capital of Rs. 180·15 lakhs.

During the year under review one woollen mill, 3 cotton mills, 2 printing and publishing presses, one metal works, and one cinema producing company with a total paid-up capital of Rs. 27·37 lakhs went into liquidation.

CHAPTER II

WORK OF THE DEPARTMENT—ORGANISED INDUSTRIES

35. In this Chapter a brief description is given of the various activities of the Department in the interest of organised industries.

There are many small scale organised industries in this Presidency, not to speak of cottage industries, which have in use technical processes and appliances capable of considerable improvements which when carried out will enable the factories in question to provide better quality and larger quantities of finished products for the same labour and cost. This kind of work naturally involves a careful study of the industry concerned and a considerable amount of experimental work. Successful endeavours in this direction would enable the industries concerned to compete better with imports and would also increase production in the country. During the year under review work in connection with Gold Thread Industry and Cashewnut Shell Oil was continued.

In a similar manner, there are certain small scale industries which could be established in the province and which at present either do not exist or exist on a restricted scale. In order that such industries may be established, some practical experimental work in connection therewith is necessary. During the year under report the Department carried out work in connection with the following industries.

PRACTICAL INVESTIGATIONS, EXPERIMENTS AND DEMONSTRATION WORK TO IMPROVE THE QUALITY AND QUANTITY OF PRODUCTS OF EXISTING INDUSTRIES

36. **The Real Gold Thread Industry.**—The work of demonstrating the improved type of silver thread spinning machine was continued in Surat. The demonstration was visited by all the leading gold thread manufacturers in that city who expressed their satisfaction with the working of and the high class of silver thread turned out by the machine. One of the leading local merchants constructed one 100 spindle machine which is working satisfactorily. It is expected that similar machines will be constructed by other merchants in the near future.

The work of instructing local wire drawers in the use of cleaning chemicals and annealing of silver wire was continued during the year.

37. **Cashewnut Shell Oil.**—Work on this oil was continued during the year under report. Different kinds of coatings were prepared from the oil extracted from discarded shells of roasted nuts after the removal of the kernels. The coatings were applied on various surfaces such as glass, iron, aluminium, copper, tin plate, galvanised iron, etc. The properties of the films of the coatings have been studied. It has been found that the oil in question can be utilised locally for the preparation of acid-proof, mild alkali-proof, water-proof and alcohol-proof coatings. A detailed report of the work will be published in due course.

PRACTICAL INVESTIGATIONS, EXPERIMENTS AND DEMONSTRATIONS FOR POSSIBLE NEW INDUSTRIES

38. **Peppermint Oil.**—A reference was made in last year's report to the attempt of growing peppermint plants from indigenous Indian rootlets in the East Khandesh and Dharwar Districts. The oil obtained from the plants was not satisfactory. Some peppermint plant rootlets were, therefore, imported from Germany in co-operation with the Karnatak Chemical Works, Gadag. The rootlets were planted in Gadag on a small scale and grew well. Oil of a superior quality was extracted from the plants. In view of this success, arrangements have been made to grow peppermint plants of German variety in a plantation of one acre at Gadag. If this attempt is successful, further work in connection with the extraction of oil will be carried out in co-operation with the above concern.

39. **Alumina, Aluminium Sulphate and Aluminium.**—Experimental work in connection with the above items was completed during the year. A bulletin giving full details regarding the possibilities of their production in the Bombay Presidency is now ready and will be made available to the public very shortly.

40. **Lemon or Lime Oil.**—As mentioned in last year's report, a demonstration party was organised and sent to Utran in the East Khandesh

District and lime oil was produced on a good scale. Samples of the oil were sent to importers of this oil in the United Kingdom and Holland for trial and opinion. Favourable and encouraging reports have been received from abroad and the price offered for the oil is satisfactory. A party in the United Kingdom has actually placed a trial order and another has offered to buy all the production of this oil in the Presidency. A commercial plant for the production of distilled lime oil is being put up at Utran. It is expected that by the end of the coming year production will be carried out on a commercial scale. It may be stated that this will be the first instance of production of distilled lime or lemon oil on a commercial scale in this country.

41. **Mango Pulp.**—Due to lack of funds it was not possible to carry out further investigations on a bigger scale on this problem. Samples of dry mango pulp powder were sent to Calcutta for the vitamin content test. Even after the dry mango pulp powder had been kept for a year and a half the vitamin content of the samples was found to be satisfactory. As soon as funds are available a suitable pilot plant will be erected to work out the cost of production and economics of the industry.

42. **Magnetite Sand from Ratnagiri.**—No further work was done on this problem due to lack of funds. The party who has secured a prospecting license for the area at Ratnagiri containing magnetite sand has, however, agreed to co-operate with this Department to carry out further investigations. Arrangements are accordingly being made in this direction.

43. **Nicotine and Nicotine Insecticides.**—Work on the production of nicotine and nicotine insecticides from tobacco waste was continued during the year under report. Investigation has been completed now and it has been found that it is possible to produce nicotine and nicotine insecticides from tobacco waste available in the Belgaum District at competitive prices.

44. **Calcium Citrate.**—After overcoming the difficulty pertaining to the supply of good quality lime (quick-lime), samples of calcium citrate were prepared from waste lemon juice and sent to a well known firm of importers of calcium citrate in the United Kingdom. They have reported favourably on the samples sent and have offered to buy calcium citrate produced in the Bombay Presidency at the rate paid by them for similar article imported from Italy and other countries.

45. **Blumea Eriantha or Kilar Oil.**—It was mentioned in last year's report that a sample of this oil had been sent to the Imperial Institute, London, for tests and determination of its commercial value. An encouraging report has been received from that Institute. Arrangements have been made to produce this oil in the next season on a semi-commercial scale at Shivrajpur where the plant grows in abundance.

Large samples of this oil will then be sent to several firms in the United Kingdom for trial and opinion. If the price offered by them is satisfactory, efforts will be made for commercial production of this oil at suitable centres in the Presidency.

46. **Purification of Salt for the Production of Caustic Soda.**—Demand for caustic soda in this Presidency is increasing day by day due to the development of several consuming industries such as soap, oil refining, etc. All our requirements in this direction are at present imported. Most of the caustic soda produced at present abroad is made directly or indirectly from rock salt or salt brines. Only in a very few cases it is prepared from sea salt. The main difficulty experienced in the production of caustic soda from sea salt is in the removal of objectionable impurities which sea salt generally contains. In order to facilitate initial experimental work for the production of caustic soda in this Presidency investigation has been undertaken to find out a suitable method for the purification of salt produced in salt pans in and around the City of Bombay.

SCOPE FOR NEW INDUSTRIES

47. The products mentioned in the following paragraphs are either not made in the Presidency at present or made on a very restricted scale. Enterprising industrialists should consider the question of establishment of factories for their production :—

(1) **Billets and Sheets, etc.**—Bombay has one of the largest ship breaking and Jerry yards East of Suez, where considerable quantities of M. S. scrap are available. This could be utilised for making billets, sheets or merchant bars for which there is a considerable local demand.

(2) **Manufacture of Torchlight Casings.**—There is a large local as well as provincial market for torchlight casings and there is no reason why these should not be made locally.

(3) **Manufacture of M. S. Piping.**—There is a good demand for ordinary and galvanised iron piping for water supply and other uses. All the requirements of the market are at present supplied by imports.

(4) **Wood Screws.**—The consumption of wood screws in the hardware trade is considerable and there is no establishment at present in the Presidency for making them.

(5) **Manufacture of Sand and Emery Paper.**—Bombay in particular and India in general consumes a considerable quantity of sand and emery paper in the wood and metal industries.

(6) **Manufacture of Small Cutlery.**—Penknives, knives, scissors and other cutting instruments are largely imported into Bombay and enterprising industrialists should consider the question of the establishment of a factory equipped with modern power machinery for making these articles.

(7) **Manufacture of Veneers and Ply Wood.**—The local forests contain some timbers which have been favourably reported upon by the Forest Research Institute in connection with the manufacture of veneers and ply wood. Ply wood and veneers are now being increasingly utilised by local wood workers and factories ; all the requirements of the market are at present met by imports.

(8) **Pencil Manufacture.**—There is one pencil factory in Madras and one in Bengal. There is no such factory in this Presidency. There is a good demand for pencils in the local markets which is largely met by imports. There seems no reason why a factory run on sound lines should not be successful here.

SOLVING OF PRACTICAL DIFFICULTIES IN THE PROCESSES OF MANUFACTURE AND RENDERING OF TECHNICAL ADVICE

48. Apart from the work of improvements in technical processes in the making of gold thread, peppermint oil and soap, etc., to which a reference is made elsewhere, a number of requests for assistance in the solution of practical difficulties was dealt with. A few of these are briefly summarised hereunder :—

(1) A local firm making metal windows and door venetians had difficulties with the working of a locally made machine. The factory was visited by the Industrial Engineer who gave the technical help required.

(2) The owner of a local knitting factory was experiencing difficulties with shrinkage of his mantles. The necessary advice was given.

(3) A small factory was given the necessary specification of a suitable boiler and it was also assisted in its selection.

(4) A party purchased a block of second-hand nail machines. He wanted to build a wire drawing machine locally to supply the nail machines. Complete constructional details were given to the party and the wire drawing machine was constructed and worked quite satisfactorily. The party was also given a plan of the layout and details of acid and lime becks and heating chamber.

(5) A local glass factory was having trouble with temperature in both its pot furnace and gloy hole. The Industrial Engineer redesigned the gloy hole and enabled the party to save an appreciable quantity of coal per day. The furnace grating was redesigned and larger area was recommended to be charged in order to give the required temperature.

(6) A small local silk factory was experiencing difficulties with the working of its finishing machinery. The concern was given the necessary information and instructions.

(7) A silver wire drawer in Surat was experiencing annealing difficulties when drawing very fine wire. He was instructed how to carry out the annealing process and a new type of indirectly heated annealing furnace was designed by the Industrial Engineer and constructed.

(8) A gentleman in Bombay was interested in the recovery of silver from waste fixing bath hypo solution. He was supplied with a note describing the process in detail and detailed estimates of the equipment necessary for carrying out silver recovery operations.

GENERAL ASSISTANCE TO INDUSTRIES

49. A number of new concerns came into existence during the year. Many of them were visited by a member of the staff of this Department. The concerns were given when required such advice as was necessary. They were also recommended to the several purchasing authorities in the country. In some cases the question of customs duty, cheap raw materials and facilities was taken up on behalf of the factories with the authorities concerned. Some examples of this kind of work are reviewed below :—

(1) In last year's report it was mentioned that the Government of India had rejected the request of a vegetable oil factory for remission of duty on petrol used as a solvent. The concern decided to use benzine in place of petrol and sent an application for remission of duty on benzine to the Government of India. This application was supported by this Department through the Government of Bombay. The Central Board of Revenues considered the application and issued a ruling direct to the Collectors of Customs not to assess as motor spirit hydro-carbons such as extraction benzine or solvent oil which are imported for industrial processes which are not in fact used in India as motor spirit. This decision will enable the vegetable oil industry to use benzine as a solvent.

(2) The Department helped once more during the year a factory manufacturing W. I. Split Pulleys in Bombay to obtain the necessary raw materials from the Tata Iron and Steel Co. at concessional rates.

(3) An engineering works in Shikarpur, Sind, represented to this Department that the high rate of Octroi Duty on cast iron scrap, viz., Re. 0–5–0 per maund levied by the Municipality militated against their competing successfully with manufacturers at Sukkur where the rate of duty was 6 pies per maund. This Department took up the matter with the Shikarpur Municipality and requested it to consider favourably the application of the Company for a reduction in the duty. It is now learnt that the Municipality has reduced the duty on cast iron scrap to Re. 0–0–3 per maund.

(4) The tanners and hides, skins and bark merchants petitioned the Mayor of Bombay against the proposed licensing by the Corporation of milch cattle stables in the Dharavi tannery area. This Department was requested to take up the matter with the Municipality on behalf of the tanners which it did. The Corporation have rejected the proposal for allowing new milch cattle stables to be constructed in the Dharavi area.

(5) The Government of India, during the year under review, entrusted to a Special Tariff Board an enquiry regarding the level of duties necessary to afford adequate protection to the Indian Cotton Textile Industry against imports from the United Kingdom of (**a**) cotton piecegoods, (**b**) cotton yarn, (**c**) fabrics of artificial silk and (**d**) mixture fabrics of cotton and artificial silk. The Director of Industries was consulted in the matter specifically with regard to the effect the then existing duties had on the handloom industry and the kinds of handloom cloths produced in the Presidency which entered into competition directly or indirectly with the goods imported from the United Kingdom. A detailed report with samples of cloths was submitted by the Department and the case of the handloom industry was represented.

COMMERCIAL AND INDUSTRIAL INTELLIGENCE

50. This branch of the Department continued to be both popular and useful.

As usual enquiries from abroad for opening commercial relationships with Indian firms were transferred to the Director-General of Commercial Intelligence and Statistics, Calcutta. Enquiries from Indian firms for opening trade relationships with British firms were transferred to H. M. Trade Commissioner, Bombay.

Enquiries received and dealt with in this office may be divided into the following groups :—

(**a**) Statistical, i.e., asking for figures of imports and exports of raw materials as well as finished products.
(**b**) Names of dealers in and sources of raw materials.
(**c**) Names of Indian manufacturers of various articles.
(**d**) Enquiries covering standing, etc., of firms.
(**e**) Miscellaneous.

In the year under report under groups (**a**), (**b**), (**c**) and (**e**) 576 enquiries were received and answered as against 381 in the year 1934-35. As usual, enquiries received from outside this province were passed on to the Director of Industries of the province concerned for disposal with the necessary information where readily available.

Under group (**d**) 12 enquiries as against 12 in 1934-35 and 22 in 1933-34 were received and dealt with for the supply of information

regarding the financial standing and particulars of firms, etc. Of these, 10 were from the Director General of Commercial Intelligence and Statistics, Calcutta, 1 from the Director of Industries, C. P., Nagpur, 1 from the Commissioner of Customs, Excise and Commerce, Indore.

STATE-AID TO INDUSTRIES

51. It was mentioned in paragraph 69 of last year's report that the rules for the grant of loans were under the consideration of Government. Government were pleased to accord their sanction to the rules with effect from 1st August 1935. During the year under report 10 applications for loans were received for an aggregate amount of Rs. 51,000. A loan of Rs. 1,600 was sanctioned by this Department to a party for the development of his Tin Box factory and work in connection with the execution of the necessary documents was in progress. The remaining applications were under the consideration of this Department.

CHAPTER III

WORK OF THE DEPARTMENT—COTTAGE INDUSTRIES

52. **Hand Weaving Industry.**—The Department continued its propaganda of helping and advancing the hand weaving industry which is the premier cottage industry of the Presidency by means of its weaving schools and demonstrations. Similarly dyers and calico printers as well as weavers and others were helped in adopting improved and economic methods in dyeing and printing through Dyeing Demonstrations.

The Department, during the year under review, maintained seven weaving schools for *bona-fide* weavers, two weaving schools for agriculturists, ten cotton weaving demonstrations, two wool weaving demonstrations, one cottage sizing set demonstration, two dyeing and printing demonstrations and one Central Hand Weaving Institute for fulfilling the above objects.

53. **Weaving Schools for bona-fide Weavers.**—During the year under review there were seven weaving schools for *bona-fide* weavers under the control of the Department. All the schools as usual imparted theoretical instructions and practical training in hand weaving by modern methods and improved appliances. They were conducted at the

following centres ; the number of fly shuttle looms introduced by them is mentioned against each :—

Division	Place	District	No. of fly shuttle looms introduced
Southern Division	Ilkal ..	Bijapur ..	67
Central Division	Ahmednagar ..	Ahmednagar ..	51
Do.	Savda ..	East-Khandesh ..	34
Do.	Nasik ..	Nasik ..	16
Northern Division	Chaloda ..	Ahmedabad ..	62
Sind	Tando Mahomed Khan.	Hyderabad ..	12
Do.	Pir-jo-Goth ..	Sukkur ..	54

In addition to the introduction of fly shuttle looms as shown above the weaving schools introduced 120 dobbies.

54. **Weaving Schools for Agriculturists.**—These are maintained exclusively for agriculturists with a view to train them in hand weaving by improved methods so that they can earn something during their spare time. During the year under review two such schools were maintained, one in the Southern Division and one in the Northern Division.

(a) The Weaving school for agriculturists in the Southern Division completed its work at Vannur in the Belgaum District in April 1935 and introduced 7 fly shuttle looms. It was then transferred to Hulkund in the Gokak Taluka of Belgaum District. It trained 10 young agriculturists by the end of December 1935 who have set up their own fly shuttle looms. A fresh batch of ten agriculturists was admitted in January 1936 and was receiving training during the latter part of the year under review. A new feature—viz. imparting of instructions and practical training in galicha and durry making was introduced in this school by Mr. S. V. Wagh, Weaving Assistant, Southern Division, which became popular.

(b) The Weaving school for agriculturists in the Northern Division finished its work at Sukal Tirth in September 1935. Nine students were trained in hand weaving and four fly shuttle looms and two newar looms were introduced. It was then transferred to Bordi in the Thana District in consultation with the Collector of Thana in October 1935. Ten students received training in hand weaving and they have ordered out fly shuttle and newar looms.

The weaving schools for agriculturists have become popular and as a result of the Rural Uplift Movement applications for opening such schools for agriculturists to enable them to adopt hand weaving as a subsidiary occupation are being received from various villages.

55. **Weaving Demonstrations.**—In addition to the weaving schools mentioned above the Department also maintained ten cotton weaving demonstrations during the year under review. They were held at the following places and they introduced the number of fly shuttle looms mentioned against each :—

Division	Place	District	No. of fly shuttle looms introduced
Southern Division	Nidgundi ..	Bijapur ..	33
Do.	Byadgi ..	Dharwar ..	3
Do.	Hubli ..	Do. ..	27
Do.	Bagewadi ..	Belgaum ..	1
Do.	Khasbag ..	Do. ..	13
Central Division	Islampur ..	Satara ..	2
Do.	Yelur ..	Do. ..	1
Do.	Faijpur ..	East-Khandesh ..	15
Do.	Barsi ..	Sholapur ..	11
Do.	Sholapur ..	Do. ..	24
Northern Division	Mandvi ..	Surat ..	..
Do.	Katwara ..	Panch Mahals ..	3
Do.	Garbada ..	Do. ..	1
Do.	Amod ..	Kaira ..	3
Do.	Bochasan ..	Do. ..	..
Do.	Gutal ..	Do. ..	3
Sind	Matiari ..	Hyderabad ..	32
Do.	Shikarpur ..	Sukkur ..	17

In addition to the introduction of looms shown above the demonstrations introduced 147 dobbies.

56. **Cottage Sizing Set Demonstration.**—Four weaving schools have been equipped with a Cottage Sizing Set each to train weavers on the machine in preparatory processes of warping and sizing by improved methods.

A separate demonstration equipped with a Sizing Set, and fly shuttle and carpet weaving looms was also maintained in charge of one head master and one assistant master at Kharepatan in the Ratnagiri District during the year. It demonstrated to the local weavers improved methods of sizing, and trained half a dozen weavers in galicha weaving.

57. **Wool Weaving Demonstrations.**—Two demonstrations were maintained in the Presidency to train wool weavers in adopting improved methods and economic appliances in their work.

(a) The demonstration which was working at Natepute during the last year finished its work in April 1935 and introduced 5 looms during the year under review. It was then transferred to Darga in the Bijapur District. Eight persons attended the demonstrations more or less

regularly and received practical training in the different processes, e.g., carding, spinning, weaving, etc. up to November 1935. As a result of this 6 fly shuttle looms, 2 hand carders, 3 carding bows, 4 improved spinning wheels, and 4 galicha weaving looms were introduced. From December 1935 ten boys attended the demonstration regularly. The Collector of Bijapur took keen interest in the activities of the demonstration and with a view to make wool weavers attend the demonstration regularly as in the weaving schools awarded small scholarships from the grant at his disposal. This arrangement led to very regular attendance and it was possible to give the boys instructions in weaving rugs, shawls, galichas, and dyeing and milling processes. The carding and spinning work is generally done by women and it was found that they hesitated to come to the demonstration for training in the use of improved appliances under male demonstrators. Arrangements were, therefore, made to appoint part-time female staff in consultation with the Collector of Bijapur from 1936-37.

(b) It was observed that the wool weavers in the Nasik District met various difficulties in marketing their goods as the same lacked in good finish, attractive colour schemes and patterns. The Collector of Nasik, therefore, suggested that a demonstration may be opened for them. The Cotton Weaving Demonstrator working at Islampur was, therefore, sent to Darga wool weaving demonstration for training in all the processes connected with wool weaving under the supervision and guidance of Mr. S. V. Wagh, Weaving Assistant, Southern Division. He received training for three months and opened a wool weaving demonstration at Naygaon in the Nasik District in August 1935. The Collector of Nasik arranged for the supply of weaving implements, etc., to weavers on instalment system from the grant at his disposal. As a result of the demonstration one improved spinning wheel and 12 fly shuttle looms were introduced.

58. **Dyeing Demonstrations.**—**(a)** One of the dyeing demonstrations continued its activities at Bailhongal till 18th September 1935. In addition to the results reported under paragraph 80 **(a)** of last year's report the demonstration helped one party in opening a small dyehouse in Bailhongal. Two weavers started dyeing of yarn in various shades. Two persons from Gajendragad attended the Demonstration and received training in dyeing of Napthol, Sulphur and Direct colours on cotton yarn, mercerised yarn and artificial silk. As a result of this they opened a small dyehouse at their place. One person from Uppinbettigeri received training in modern methods of screen printing and dyeing of Napthol, Sulphur and Indenthrene colours on cotton yarn and artificial silk for about a month. He has now started a dyehouse at his place. The dyehouse of the local Weavers' society benefitted by the advice and assistance of the demonstration. Two local persons received training in metal printing and are reported to be doing well.

The demonstration was transferred to Sampgaon during September 1935 where it is still working. Sampgaon is a small village about 7 miles from Bailhongal with about 16 handlooms. It was observed by the Demonstrator that dyeing of yarn and silk as well as Calico and Mica printing were not done by anybody at this place. The Demonstrator, therefore, demonstrated first the dyeing of cotton yarn. Application of Direct, Sulphur, Napthol and Indanthrene colours was taught by practical demonstrations. Detailed notes on the dyeing processes were given to the persons attending the demonstration and the students were made to dye yarns themselves according to these instructions. Later on, dyeing of silk was introduced and practical training in the application of Aniline and vegetable colours was given. All the students attending the demonstration showed inclination for Mica and Calico printing work. Detailed information in this connection was given to them and they were taught to prepare their own pastes and colour mixtures and to do practical work in the demonstration under the supervision and guidance of the Demonstrator. Eleven persons thus received training at the place locally in the above arts.

One man from Gadag attended the demonstration for about a month and received training in dyeing of cotton and mercerised yarns and artificial silk. It is understood that some yarn merchants of Gadag had deputed him to Sampgaon for the above training after which they opened a small dyehouse there under him.

One man from Gokak attended the demonstration for about 3 months to receive training in dyeing and printing with a view to establishing a Mica printing works at his place.

Two weaver brothers of Naginhal, Taluka Bailhongal, owning 6 looms attended the demonstration for about 2 months to receive training in different processes of dyeing as they wanted to set up their own small dyehouse at their place.

The Demonstrator during the year under review attended to various enquiries regarding dyeing and printing. He also wrote a Marathi booklet on " Fast Colour Dyeing on Real Silk " which was published by this Department during the year.

The demonstration continued to do very useful work at the various centres to which it was sent during the year.

(b) The Dyeing Demonstration maintained in Sind continued its activities at Shikarpur during the year under review. Four indigo dyers, two printers and two wool dyers were given training in dyeing of Indanthrenes, Chrome and Acid colours and printing of white and coloured discharges on Indigo, Sirins and Napthols. During May 1935 the Demonstration participated in the Silver Jubilee Exhibition, Karachi, for about a fortnight where its work in dyeing and spray printing was

watched with interest and appreciated by a large number of visitors. Several persons received training in spray printing at the stall.

The demonstration started as a new feature screen printing by which can be produced those designs which cannot be printed by block or spray printing process. About six persons learnt this art and one has ordered out the necessary equipment and chemicals to start his own work. Six persons received training in discharge printing. They were all printers. The para-printing which was done by a laborious process by padded style in Alizarine was replaced by Diazo discharges in equally fast colours. As a result one person started para-printing and two began to do spray printing work.

Two persons from Lakhi and one from Sukkur attended the Demonstration and received training in dyeing and printing. Several enquiries regarding dyeing and printing processes received from Pir-jo-Goth, Sukkur, Lakhi, Larkana, Sultankot, etc., were attended to by the Demonstrator. One Quetta Earthquake sufferer appealed for instruction in dyeing and printing so as to be able to earn his bread. He was given the necessary training and assistance in purchasing requisite equipment, etc., and is reported to be doing well.

One dyer from Sukkur desired assistance for mercerising of cotton yarns (doubled) for thread balls required in embroidery work. A sketch of the necessary machine was prepared and furnished to him. He accordingly got one machine prepared and made trials on it at the Demonstration under the supervision and guidance of the Dyeing Demonstrator. The work turned out was well received in the market.

The Demonstration continued to do very useful work in Sind during the year under report.

59. **Government Hand Weaving Institute.**—There were 42 students on the roll at the end of the year 1935-36—13 in the Second Year Advanced Course, 20 in the First Year Advanced Course and 9 in the Artisan Course. Examinations of the students attending the Institute in 1934-35 were held by technically qualified men in April 1935. 28 out of 31 on the roll passed which showed very satisfactory results. As a new feature in the training imparted to the students weaving on automatic handloom was introduced during the year.

Expenditure.—The total expenditure incurred during the year under review on the maintenance of this Institute was Rs. 12,750-14-3.

60. **Improvements in Hand Weaving Appliances.**—The Department continued to demonstrate improved hand weaving appliances designed by it. The beam system, mechanical dobby and sari border and tape weaving loom to which a reference was made in paragraph 83 of the Annual Report of this Department for 1934-35 were further popularised. 25 beams, 9 mechanical dobbies and 1 sari border loom were introduced during the year.

61. **Miscellaneous Activities of the Weaving Section.**—In addition to running weaving schools and demonstrations, the weaving staff rendered assistance to the public in solving their technical difficulties in hand weaving and allied industries, supplying them estimates for small handloom and dyeing and printing factories and helping in the establishment of weaving classes. Some examples of such work are noted below :—

(1) A party in the Panch Mahals District was furnished with detailed scheme for a small weaving factory.

(2) An enquirer from Bailhongal was given detailed information and designs in connection with weaving.

(3) A Hosiery factory in Bombay was supplied with a detailed note on delustering of artificial silk.

(4) An enquirer from Ahmedabad was furnished with an estimate for a small dyeing and printing factory.

(5) A detailed scheme for a weaving school for agriculturists was supplied to the Chairman, Cottage Industries Committee, Sholapur.

(6) The Jamia Islamia and Yatimkhana of Karachi was helped in establishing a hand weaving class.

62. **Investigations into the Condition of Hand Weavers.**—The investigation in connection with hand weaving industry detailed on page 29 of last year's report was carried on further during the year under report in the following centres :—

Northern Division.—Chikhli, Abrama, Surat and Broach.

Southern Division.—Belgaum, Gadag, Hubli, Dharwar, Lakkundi and Gajendragad.

Central Division.—Dharangaon, Bhingar, Sholapur, Malegaon, Parola, Nasik, Satara, Kharda, Chandor and Dhulia.

Sind.—Nasarpur, Tatta, Lakhi, Lahori and Hala.

Owing to trade depression and severe competition from mills in the production of staple cloths turned out by handlooms, there was no improvement in the condition of hand weavers from that described in the annual reports of previous years. Their economic condition continued to be unsatisfactory.

MARKETING OF HANDLOOM PRODUCTS

63. A reference was made to the scheme for marketing of handloom products in the Bombay Presidency from the Government of India grant in paragraph 86 of last year's report. Mr. N. M. Shah, B.Sc., was appointed Marketing Officer (Handloom Products) from 1st June 1935 and Mr. D. N. Savkur, L.T.M., was taken up as Textile Designer from 3rd September 1935.

Three Industrial Associations as described in the Scheme were organised at Poona, Ahmednagar and Hubli during October to December 1935, and they opened their shops and started their functions under the following names :—

(1) South Central Weavers and Industrial Co-operative Association, Ltd., Poona.
(2) North Central Divisional Industrial Co-operative Association, Ltd., Ahmednagar.
(3) The Industrial Co-operative Association, Ltd., Southern Division, Hubli.

These associations were in the initial stage of their working during the year. They commenced their operations by stocking raw materials such as yarn for sale on a low margin of profit to weavers and by purchasing in small quantities the usual finished products of the local weavers. Weaving appliances were also stocked for sale with a view that weavers may get good articles at reasonable rates. Samples of finished products of weavers were shown in the different markets in order to ascertain the possibility of their sale on a larger scale either in their present form or with alterations in texture, dimensions or patterns. Information as to the requirements of those centres was also collected. On the basis of the information collected, the weavers were advised either to make changes in their present products or to take out altogether new qualities and patterns. Whatever raw materials were necessary for the manufacture of such new products, were obtained and stocked by the associations. A special feature in this connection was the production for the first time of plain and striped shirtings and coating cloth in Hubli and sarees known as patals in Ahmednagar. It is gratifying to note that the new qualities mentioned above have been approved in different markets and appear to have the prospect of finding extensive sales in future.

The District Industrial Co-operative Association, Hyderabad (Sind), was registered on 10th March 1936 and preliminary work in connection with the organisation of a similar association at Ahmedabad was in hand at the end of the year under report. These two associations are expected to function early in 1936–37.

INVESTIGATIONS AND DEMONSTRATIONS COVERING OTHER COTTAGE INDUSTRIES

64. **Pottery Glazing.**—Experiments in connection with the application of modern Ceramic colours by new Majolica process to earthenware were continued at Bailhongal by the Dyeing Demonstrator during the year. The Dyeing Demonstrator in Sind demonstrated the application of Majolica colours on tiles and trials on new glazes were undertaken. Four Kashigars attended the demonstration at Shikarpur to learn the art.

65. **Oil Industry.**—In paragraph 88 of last year's report a mention was made that the scheme for the development of village oil industry was under the consideration of the Imperial Council of Agricultural Research. The Imperial Council could not finance the scheme from their funds as it was considered to be an industrial scheme. In view of the fact that the scheme is of considerable importance to the Bombay Presidency this Department has requested the Government of Bombay to finance it..

66. **Bone Manure.**—A reference was made in paragraph 90 of last year's report regarding Bone-crushing Industry. Although the general investigation was completed, the scheme was not submitted to Government as it was considered desirable to await the results of the test on a selected type of bone-crusher by the Imperial Council of Agricultural Research which is being carried out at Lyallpur, Punjab.

67. **Glass Bangle Industry.**—It was mentioned in last year's report that investigation of glass bangle manufacture as a cottage industry was undertaken by the Department. Experimental work in this connection was carried out at the Victoria Jubilee Technical Institute at Matunga during the year. An improved type of glass pot furnace and a wood or charcoal fired bangle-jointing furnace have been designed and constructed by the Industrial Engineer and are working satisfactorily. Further work in this connection is in progress. As a result of the experiments and research work on the construction of a suitable furnace and glass pots for glass melt, carried on by the Department, some parties in Ghodgeri, district Belgaum, have come forward to have 8 similar pot furnaces built for melting of glass for glass bangle-making. The necessary new types of high temperature refractories required in the construction of the new type of glass pot furnace were designed by the Industrial Engineer and manufactured and supplied by a local pottery factory, namely, the Bombay Pottery Works. The parties in Ghodgeri were helped by the Department in obtaining the new type of glass pots, etc., from the pottery factory referred to above.

Experimental work in connection with suitable low melting temperature glass is being carried out with the co-operation of the Paisa Fund Glass Factory.

68. At the request of the Assistant Director of Industrial Research Bureau, New Delhi, and with a view to further investigation, samples of rough glass obtained from the makers of glass for the manufacture of bangles as well as samples of glass bangles manufactured in the Bombay Presidency and those imported from Japan and other continental countries were supplied to the Bureau. A note on the existing practice of workers in glass bangle-making, giving information about furnaces used, temperatures obtained, implements used and the possible lines of further investigation and research was also forwarded to the Assistant Director.

CHAPTER IV

WORK OF THE DEPARTMENT UNDER THE VILLAGE IMPROVEMENT SCHEME

69. Government sanctioned during the year under review for the Presidency proper the schemes detailed below from the Village Improvement Grant made by the Government of India :—

(a) Village Tanning Industry.—The scheme sanctioned provides for the appointment of a Tanning Expert and organisation of two peripatetic demonstration parties in flaying and tanning.

The Tanning Expert is expected to organise and supervise the demonstration parties, prepare from time to time leaflets and circulars with illustrations in connection with branding of animals, care in flaying and preserving of hides and skins, give technical advice and help to tanners and manufacturers of finished leather, and study the disabilities from which the tanning trade suffers.

Each demonstration party will be in charge of one demonstrator and one assistant. The parties will tour from place to place teaching improved methods of flaying and tanning.

The scheme has been sanctioned for a period of 3 years at the total cost of Rs. 26,644.

At the time of writing this report, the Tanning Expert has joined his duties and the work of organisation of the demonstration parties has been taken in hand.

(b) Inland Fisheries.—From the Government of India grant Government were pleased to place at the disposal of this Department a sum of Rs. 10,000 for the development of inland fisheries. In this connection a reference is invited to paragraph 81, Chapter V on Fisheries.

SIND

70. As Sind was part of the Bombay Presidency during the year under report, Government of Bombay were pleased to sanction the following schemes for operation in Sind from the Government of India grant :—

(a) Village Tanning Industry.—The scheme provides for the organisation of two tanning demonstration parties. Each party will be in charge of a demonstrator and an assistant. The parties will move from place to place and demonstrate improved methods of tanning and flaying. The scheme is limited to a period of 3 years and the total cost of the scheme is Rs. 9,700. It was not possible to organise these parties during the year.

(b) Soap-making.—The scheme covers the demonstration of soap-making by improved methods on cottage industry basis.

A Soap Chemist has been appointed and given training in Bombay. He has been provided with suitable equipment and is at present giving demonstrations in soap-making in Kotri, Sind.

The scheme has been sanctioned for a period of 2 years and the cost is Rs. 7,000.

(c) **Rope-making.**—In certain areas in Sind Vahn fibre is available in large quantities. There are colonies of Labana Sikhs and others in some villages in Sind where this fibre is converted into ropes and twines. This work is carried out by means of very primitive and crude appliances. Large quantities of this fibre were brought into Bombay and experimental work was undertaken. As a result of this improved appliances were devised and constructed. Experimental work was also conducted in connection with the dyeing of the fibre. The fibre was also utilised for the making of a number of articles which have hitherto not been made satisfactorily in Sind.

Government sanctioned the appointment of a demonstration party to teach local people in Sind at present engaged in this industry improved methods of rope and twine-making and also to teach them making of certain articles of household use from the ropes made from the fibre. A person knowing Sindhi was appointed as a demonstrator and was given training in Bombay in the use of the improved appliances. He was also given training in the laboratory of the Imperial Chemical Industries (India) Ltd., Bombay, how to dye the fibre. He was further given training in the Arthur Road Jail and elsewhere in the utilisation of the rope made from the fibre for mat-making and furniture-making. After completion of his training the demonstrator was sent to Sind with the necessary equipment, where he is at present engaged, with the help of an assistant, in demonstrating improved processes in a village a few miles from Rohri.

The scheme has been sanctioned for a period of 2 years and the total cost is expected to be Rs. 3,910.

MISCELLANEOUS WORK

71. In addition to the above, the Department participated in the various activities relating to the Village Improvement Scheme, by deputing its moffussil technical staff to the various centres as requested by the various Village Improvement Committees. Lectures with lantern slides and technical advice and schemes for adopting hand-weaving as a cottage industry were given. A weaving demonstration was opened at Yelur at the request of the Chairman, District Propaganda Committee (Village Improvement Scheme), Satara, in December 1935 and 12 agriculturists were trained in adopting hand-weaving as a spare-time occupation. Assistance was given to some district officers for establishing from the grant at their disposal hand-weaving schools and dyeing institutions. Weaving schools were organised at Talti and Banguldero and a weaving

and dyeing institution was organised at Nagar Parkar under the supervision and guidance of the Weaving Assistant, Sind. Several looms in different centres were set up according to the scheme planned by the revenue officers in Sind in consultation with the Weaving Assistant.

CHAPTER V

FISHERIES

72. **Departmental Launches.**—The continued success of the fisheries experiment launched more than two years ago is evident from the fact that Messrs. M. G. Patil and S. G. Bhika approached the Department during the year for the purchase of the second launch " Lady Sykes " belonging to this Department. The launch was sold to the fishermen of Danda on exactly the same terms as the first launch, " Sir Frederick Sykes ". From the profits of these two launches the parties have been able to pay back so far the initial and monthly instalments aggregating to about Rs. 7,000 or about a third of the total cost.

The fishermen all over the coast watched the progress of the experiment with interest. This was reflected in the applications for grants made to this Department by fishermen from various places. A repesentation was also received from fishermen in the Ratnagiri District. This was carefully considered and the firm of Messrs. Parkar & Co. was recommended to Government for a loan of Rs. 20,000 for the construction of a launch. There was some delay in sanctioning the loan, with the result that the launch was ready for use only in the first week of January, nearly four months after the start of the fishing season on the Konkan Coast. The launch was named " Lady Brabourne ". She was built by Messrs. Alcock Ashdown & Co. and is a great improvement, both in the point of size and engine equipment, on the first two launches referred to above.

The dimensions of the launch are—length 42′, breadth 11′-2″ and depth 5′-3″. The launch is fitted with a Ruston Hornsby " 3 VQM " Marine Engine developing 52 B.H.P. at 1,000 r.p.m. The " Lady Brabourne " conformed to all the requirements of the Indian Mercantile Marine. The construction of the launch was supervised by the Ship Surveyor to Government, Mercantile Marine Department, Bombay, to whom thanks of this Department are due for his advice and assistance.

73. **Benefits of motor boats.**—All the three launches have been operating between Bombay and Karwar. The bulk of the catch last year was brought from Malvan, which was the farthermost point to which the launches " Sir Frederick Sykes " and " Lady Sykes " performed trips. The fishing season during the year under review was, however, very slack. This unusual phenomenon has occurred after a number of

years. The catches were most unsatisfactory off both the Ratnagiri and Kanara coasts, and this is borne out by the statistics of the salt issued in both these districts for purposes of curing fish. There was a scarcity of fish at Devgad and Malvan with the result that the launches had to push further afield. They accordingly travelled down as far as Karwar, 270 miles from Bombay. The launches also made trips to as far south as Bhatkal, which is the southern-most point of this Presidency, and is situated about 334 miles from Bombay. This is a creditable performance for the launches in view of their small size, and limited horse power. The fish preserved in ice in the holds of the launches was brought to Bombay in good condition without any deterioration in quality or appearance, despite the absence of refregerating facilities.

74. The introduction of the launches has served Government's original intention of increasing the supply of fish in the city of Bombay. The quantity of fish that found its way to the market was much larger than in previous years. This is due mainly to the launches, which made available in abundance fish which formerly was rarely found on sale in the Bombay markets. The three launches brought during the fishing season a total of 239,446 lbs. of fish into the city. The money realised from the sale of fish was about Rs. 22,280.

75. The practical demonstration afforded by this Department in bringing fish successfully to Bombay from distant fishing sites also resulted in two private firms engaging in the business and bringing to the city between them about 170,000 lbs. of fish.

76. The fishermen actually engaged in fishing have also profited by the use of the launches ; for when the launches operated at Jaigad and Malvan fishermen from neighbouring sites flocked to sell their catch to the launches, and thus secured better prices than they would have done by carting the fish to the fish curing yards. Fresh fish was formerly not brought from Ratnagiri coast to Bombay. The Ratnagiri fishermen did not have a proper outlet for their fish. The result was that they were compelled to sell about 1,000 mackerels weighing 200 lbs. for about Rs. 2, whereas now the same fishermen realise from Rs. 8 to Rs. 12 per 1,000 of this fish.

77. **Lack of suitable fish landing sites.**—Attention may be drawn to the view that the maximum benefit from the operation of the launches will only be achieved with the provision of better facilities for landing fish than are available at present. The complaint of the owners of the launches is that the launches cannot come alongside at Sassoon Dock at low tide. This considerably hampers and delays the expeditious landing of fish, with the result that often it cannot reach the market in time. The fishermen, therefore, have been persistently clamouring for the removal of the hardship.

78. **Training of apprentices.**—One of the objects in view has been to train youths of the fishermen community to man the launches. This idea has always been kept in the forefront of the work of the Fisheries Section. The number of youths taken for training at the time the experiment was inaugurated was two. Their number has now risen to seven. One of the original two youths has passed an examination and obtained a certificate enabling him to work as a mechanic. There are now five youths under training, qualifying for the same certificate which is issued by the Mercantile Marine Department. After the completion of 18 months' service of apprenticeship they will sit for the mechanic's test.

79. **Experiments with fishing nets.**—The possibility of introducing new types of nets for fishing in Bombay waters was tried during the year. For this purpose a net was imported from Madras, similar to the Italian trawl. The net, however, proved to be ineffective, as it gave way owing to the strong current of water. The fishermen were, however, impressed with its design, and they were confident that its use by them would be beneficial to their industry. Steps have been taken to manufacture locally a stronger net of this type. This net will be tried out during the next fishing season.

80. **Development of Inland Fisheries.**—Government at the beginning of 1935, approved of a scheme for an experiment to develop inland fisheries. A sum of Rs. 1,500 was placed at the disposal of this Department by Government under G.R., R.D., No. 3699/13, dated 20th July 1935, to cover the cost of the experiment in one large tank. The object of the experiment is to test the possibility of the fish known as "Gourami", available in Madras, breeding in local waters. An experiment for this purpose was accordingly started at Bandra, a suburb of Bombay, where a tank was obtained on loan for a period of seven years from the Bandra Municipality.

The fish was not actually introduced in the tank during the year under review, as the permission of the Municipality to begin the work on the tank was received very late by this Department. As a preliminary step to the actual launching of the experiment, it was essential to empty the tank of water, fill up the wells in it and clear it of its weeds and its entire stock of existing fish. The experimental fish will be introduced when the tank fills up during the monsoon of 1936.

81. Government were also pleased to place at the disposal of this Department a sum of Rs.10,000 from the Government of India grant for Rural Uplift. A scheme for this purpose, spread over four years was approved by the Government of Bombay under G.R., R.D., No. 4626/33, dated 6th January 1936, under which a Piscicultural Assistant has been appointed. The scheme includes :—

(*a*) A survey of the various sheets of water in the Presidency.

(*b*) Fattening of fish in wells and tanks.

(*c*) Fish culture.

With a view to carrying out the objects under (*b*) and (*c*) above, this Department has acquired a second tank at Bandra, a pond and a well at Uttan near Bhainder, 3 wells at Danda, and 2 wells at Poona on the estate of the Agricultural College. Fresh water fish of different varieties are proposed to be introduced in the reservoires of water. The fish will be brought from Madras and Bihar and stocked in the above ponds and wells. The fish bred here will form a nucleus from which other fresh waters in the Presidency will be stocked.

The experiment will be gradually extended in the light of the experience gained. The places to which it will be first extended will be within easy reach of Bombay, so that the Fisheries Officer will be able to examine personally the progress of the experiment.

82. A Provincial Angling Association for Bombay was formed during the year under review by people interested in the project. The Association took over the lease from the Bombay Municipality of the fishing rights at Powai lake, with the object of stocking the lake with suitable fish. The Fisheries Officer gave advice and assistance to the Association, besides obtaining information of use for the Association from other centres in India where Megalops, the fish introduced in the Powai lake are available.

83. **Fish Curing Yards.**—Approval was accorded during the year to the scheme for the transfer of the control of the Fish Curing Yards from the Salt Department of the Government of India to the Department of Industries. With the transfer of the control of the yards, the Department of Industries will acquire a more intimate touch with the fishermen and have direct control over an important aspect of the fishing industry. The volume of fish dealt with at the Fish Curing Yards has amounted on an average to 9,000 tons. The control will be taken over with effect from 1st July 1936.

84. **Co-operative Societies.**—The formation of Co-operative Societies among the fishermen engaged the attention of the Fisheries Officer during the year. The Fisheries Officer assisted the Registrar of Co-operative Societies in his work of popularising the movement among the fishermen at Danda and Mahim. The advantages of the movement were explained to them in detail at the several meetings of fishermen at the two places. The fishermen of Danda have realised the benefits of the co-operative activities and have formed a co-operative society for themselves.

85. **Fisheries information Bureau.**—The Bureau continued to fulfill its useful purpose during the year. The number of inquiries dealt with by the Bureau showed an increase as compared with the previous year. Inquiries dealing with the various aspects of the fish trade were attended to. Information was sought, among other points, on the construction of launches, fresh water fisheries, the possibility of introducing

fresh water fish on private property, fish curing methods, fish manure and fish oils.

The Bureau has also collected statistics and other data bearing on the fish trade in the Presidency. This information will be placed at the disposal of the Marketing Officer of the Imperial Council of Agricultural Research when he undertakes survey bearing on the marketing of fish.

CHAPTER VI

MINES AND MINERALS

86. The Department collected during the year the necessary statistics pertaining to Mines and Minerals from the various District Magistrates and the Agents to the Governor General and a consolidated return of the same was submitted to Government and the Director, Geological Survey of India.

During the year under report prospecting licenses were granted or renewed for mineral oils and natural gas, Manganese ore and Bauxite.

The only mineral of importance raised during the year ending 31st December 1935 from mines exempted from the operations of the Indian Mines Act 1923 was Fuller's Earth. 18,633 maunds of this earth valued at Rs. 13,349-2-0 were raised from Met Khan Mine in Hyderabad (Sind) District.

This Department dealt with a number of enquiries received from the public in connection with minerals, places of their occurrence, firms dealing in them, etc.

87. **Tarkeshvar Limestone.**—There is no cement factory at present in the Bombay Presidency. Dr. Patel, Industrial Chemist of this Department, was investigating for a suitable site where a cement factory could be put up and worked profitably. He found that Tarkeshwar in the Surat District, where nummulitic lime-stone is found in abundance could be one of the most suitable sites for a cement factory in view of its vicinity to important consuming centres of cement, viz., Bombay, Surat, Ahmedabad, etc. A well known firm in Bombay interested in the manufacture of cement requested the Department to investigate the lime-stone deposits of Tarkeshwar and help them in marking out an area for which they could apply for a prospecting license. Dr. Patel visited the area on their behalf and marked out the area suitable for carrying out prospecting operations. Several samples both of lime-stone and clay were brought by him and were analysed. A report stating the extent of the deposit and the approximate proportion of various raw materials for the production of good quality cement was submitted to the company. The company has carried out further detailed prospecting operation

and it is reported that it has decided to apply for a mining lease and put up a plant for the production of portland cement in that area.

88. **Lead Ore.**—Some samples of minerals were sent by the Collector of Broach and Panch Mahals District for examination. It was found that one of the samples was lead ore containing about 80 per cent. lead. The Collector then requested this Department whether it would be feasible to advertise the area in newspapers in order to attract parties who would be interested in carrying out prospecting operations there. Dr. Patel visited the area and found that there were no visible indications on the surface that would induce any prospectors to spend any money in that area. The veins of lead ore were found to be very thin at the surface and in very hard rock. It was suggested to the authorities to put in a couple of trenches in the area to find out the nature of the veins at low levels.

89. **Sandstone and Felspar.**—The Industrial Research Council of India decided to investigate sand and felspar resources of the country in order to assist the glass industry. The Industrial Chemist visited some of the sites where sandstone is found in large quantities. During his investigations he also located deposits of Felspar. Samples of both were collected and sent to the Alipore Test House where investigation is being carried out by the Industrial Research Council. Results of the tests are awaited.

CHAPTER VII

TECHNICAL AND INDUSTRIAL EDUCATION

90. The method of control of Technical and Industrial Education by this Department as described in the report for 1931–32 remained unaltered.

There were during the year under report in the Presidency 9 Government-aided institutions maintained by public bodies, 19 Government-aided private institutions, 18 other institutions not in receipt of a grant but recognised by the Department of Industries, 10 institutions recognised for examination purposes only and one Government institution. The last was administered and controlled directly by the Department of Industries. The Department maintained its touch with these institutions through the agency of the Committee of Direction for Technical Education. A complete list of all these institutions is given in Appendix I at the end of the Report.

THE COMMITTEE OF DIRECTION FOR TECHNICAL EDUCATION

91. During the year under review the Committee of Direction for Technical Education comprised of the same gentlemen as last year except that Mr. Husseinbhoy A. Lalji having resigned, the Director of Industries was appointed Chairman in his place.

92. **Inspection.**—The Teaching Inspector of the Committee as usual visited the various aided and recognised schools during the year in discharge of his duties. The Secretary of the Committee also visited some of the schools and inspected their methods of working, accounts, attendance, registers and general management.

93. **Instruction.**—During the year under review all the schools continued to teach the subjects as described in the Department's report for 1933–34 under paragraph 79. The only important additions were Automobile Engineering and Apprentice Course, and Electroplating and Battery charging course and Leather manufacture course.

94. **Examinations.**—The Annual Examinations of all the schools were held by the Committee of Direction for Technical Education ; 1,615 candidates appeared of whom about 90 per cent. satisfied the examiners and 481 out of 539 candidates who were successful in the Final Examinations last year were awarded certificates of proficiency.

95. **Grant-in-aid.**—During the year under review the Department sanctioned grant-in-aid to the various Technical and Industrial Schools amounting to Rs. 43,616 as shown in Appendix I on the recommendations of the Committee of Direction for Technical Education.

In addition to the above grant-in-aid, non-recurring equipment grant amounting to Rs. 342–8–0 was made to three schools and a *pro forma* grant-in-aid of Rs. 1,642 was made to the Model Industrial Home and School, Kandivli.

96. **Recognition.**—During the year under review recognition was granted to the Thana School Board's Carpentry Classes at Dahanu and Mokhada and Weaving Classes at Khardi, the J. N. Petit Parsi Orphanage Carpentry Classes, Bombay, the Victoria Tailoring and Cutting College, Poona, the Marine High School Industrial Classes, Novha, the Harijan Handicrafts Institute, Karachi, the English Tailoring College, Vile Parle, Bombay, and the Zarapkar Tailoring and Cutting College, Poona.

97. **Miscellaneous.**—Technical advice was given to various interested parties for industrial classes for various courses. Four examples of this work are given below :—

A detailed scheme for a Technical School in Karachi with various industrial courses was supplied to the Karachi Municipality.

A party in Sind was furnished with detailed syllabus and estimate of expenditure for hand-weaving and dyeing classes.

Technical advice and estimates were given in connection with the establishment of the Mahomed Haji Saboo Siddik Institution, Bombay.

A scheme for a small Industrial School at Belgaum was supplied to the Collector of Belgaum.

98. **Expenditure.**—A grant of Rs. 15,153–15–0 was made to the Committee of Direction for Technical Education to meet its expenditure during the year under review as shown below :—

	Rs.	a.	p.
(1) Establishment charges	.. 4,500	0	0
(2) Inspection charges	.. 3,917	4	0
(3) Examination charges	.. 6,736	11	0
	15,153	15	0

A sum of Rs. 701–8–0 was received as examination fees, etc., and credited to Government.

VICTORIA JUBILEE TECHNICAL INSTITUTE, BOMBAY

99. This is the premier Technical Institute in the Bombay Presidency and is in a class by itself. The standard and courses of instruction were the same during the year under report. The Institute continued to be managed by a Board of Trustees of which the Director of Industries was appointed the Chairman during the year under review.

Candidates from different parts of India apply for admission and there has been a consistently increasing demand for admission to Electrical Engineering Course. At the Entrance Examination in June 1935, 486 candidates applied for admission; of these 177 were admitted, of whom 135 were from the Bombay Presidency.

The results of the Annual Examination of the final sessions were satisfactory. 39 out of 41 passed in Mechanical Engineering, 44 out of 46 in Electrical Engineering, 29 out of 31 in Textile Manufacture, 5 in Technical and Applied Chemistry and 11 in Sanitary Engineering and Plumbing, the success in the last two courses being 100 per cent.

Eighty-eight students of the Institute appeared in the local examinations of the City and Guilds Institute of London of whom 47 were successful.

100. **Miscellaneous Courses.**—In addition to the regular courses described above, apprentice classes as usual were conducted once a week for instruction in Elementary Mechanical Engineering, Electrical Engineering and Cotton Spinning and Weaving. Electrical Wiremen's Classes I and II corresponding to the standard of Government Examination were also conducted during the year. Bi-weekly evening classes were also held for the training of students in " Elementary Principles of Radio communication, maintenance and repair of Radio instruments." All these classes were well attended by a large number of apprentices engaged in different trades.

101. **Expenditure.**—The total expenditure incurred by the Institute during the year was about Rs. 2,59,976 against which a Government grant of Rs. 1,24,500 was made to the Institute by the Department of Industries against a grant of Rs. 1,22,000 of the previous year.

GOVERNMENT TECHNICAL INSTITUTIONS CONTROLLED BY THE DEPARTMENT OF INDUSTRIES

102. During the year under report, in addition to the Government Hand Weaving Institute, Poona, referred to in Chapter III, there was one technical institution in the Bombay Presidency maintained by Government and administered by the Department of Industries, viz., the R. C. Technical Institute, Ahmedabad.

103. **R. C. Technical Institute.**—While the standard of instruction attained in this institution is lower than that at the Victoria Jubilee Technical Institute, Bombay, it is higher than that at the other technical schools in the Presidency. Instruction covering a period of three years is provided in (1) Cotton spinning, (2) Cotton weaving and (3) Mechanical Engineering. During the year under review 187 applications were received for admission to the Institute. 28 candidates were granted direct admission as they possessed higher qualifications than laid down, the remaining candidates were required to appear in the Entrance Examination of the Institute. The total number of candidates admitted was 71, out of which 19 were admitted to the Cotton Spinning, 21 to the Cotton Weaving and 31 to the Mechanical Engineering Course. The total number of students on the roll on 31st March 1936 was 144.

Various scholarships founded by the public and six Government scholarships of Rs. 10 per month were awarded to deserving students.

The results of the Annual Examination held in April 1935 were satisfactory as 126 out of 138 students who appeared, passed bringing the result to 91 per cent. Six students also passed in the various Examinations of City and Guilds Institute of London.

104. **Expenditure.**—The total expenditure incurred during the year was Rs. 31,966. Receipts were Rs. 3,535. Therefore the net expenditure was Rs. 28,431.

SCHOLARSHIPS

105. The Department of Industries awards each year a number of scholarships tenable at the Victoria Jubilee Technical Institute, Bombay, R. C. Technical Institute, Ahmedabad, F. S. Parekh Technical Institute, Surat, and the Government Hand Weaving Institute, Poona. A number of scholarships is also given to the students of the peripatetic weaving schools in the Presidency and Sind reviewed in Chapter III.

In addition to the above, ordinarily three scholarships are awarded for research in Technical Chemistry and two for practical experience in Electrical Engineering. But owing to financial stringency the number of scholarships was reduced to 2 and 1 respectively.

106. **Government Special Scholarships tenable at the Victoria Jubilee Technical Institute, Bombay.**—These scholarships are intended only for Intermediate and Backward Classes and Muhammadan candidates. The total number of scholarships available each year for award is 11.

During the year under review the Department received 27 applications out of which 22 were from new entrants and 5 from the old students of the Institute. Out of these 27 applications 16 were from Intermediate Hindus, 4 from Muhammadans, 3 from Backward Classes and 4 from Advanced Communities which were left out of consideration.

Intermediate Classes.—One student in Mechanical Engineering, one in Electrical Engineering, one in Textile Manufacture, one in Technical and Applied Chemistry and one in Sanitary Engineering and Plumbing were awarded scholarships.

Backward Classes.—One student in Mechanical Engineering, one in Electrical Engineering and one in Sanitary Engineering and Plumbing were given scholarships.

Muhammadans.—One student in Mechanical Engineering and one in Sanitary Engineering and Plumbing were awarded scholarships.

107. **Technical Chemistry Scholarships.**—The two scholarships awarded in 1934-35—one tenable at the Indian Institute of Science, Bangalore, and the other at the Royal Institute of Science, Bombay,—were extended for one year more. Two new scholarships were awarded during the year. Both the scholars joined the Royal Institute of Science, Bombay.

108. **Scholarships in Electrical Engineering.**—The scholarship for practical training in Electrical Engineering granted in 1934-35 was terminated during the year as it was sanctioned for one year only. One new scholarship was awarded during the year under review. The scholar joined the Tata Hydro-Electric Power Supply Company's Workshop for training.

109. **State Technical Scholarship tenable abroad.**—Owing to financial stringency, no scholarship for technical training tenable abroad was awarded during the year under review. However, on the recommendation of the High Commissioner for India in London, the special scholarship granted by the Government of Bombay to Mr. Halkati for the Textile Manufacture Course in the College of Technology, Manchester, was extended for a further period up to 31st July 1937 as the scholar had passed in the Inter B. Sc. Tech. Examination and has to appear in the final degree examination in June 1937.

APPRENTICE SCHEME

110. **Apprentice Scheme.**—During the year proposals for the introduction of an apprentice scheme on a fairly large scale and the establishment of some vocational schools were submitted to Government. Government were pleased to enter a provision in this connection in the budget for 1936-37 which was passed by the Legislative Council. The details are now under preparation and will be submitted shortly to Government for their final approval.

MISCELLANEOUS WORK

111. **Facilities for practical training.**—As usual a number of requests was received from students for advice regarding facilities for training in Technical Institutions both in foreign countries and in India. Students who wanted information about facilities for training in foreign countries were referred to the University Information Bureau. Necessary advice about technical courses in institutions in India was given by this Department in a number of cases.

112. **Industrial and Scientific Research, 1935-36.**—A summary of the progress of scientific and industrial research during 1935-36 was sent to the Government of India for inclusion in the Annual Report of the Committee of the Privy Council for Scientific and Industrial Research, London. The material for the summary was furnished by some of the educational and scientific institutions in this Presidency.

CHAPTER VIII

WEIGHTS AND MEASURES SECTION

113. It was mentioned in last year's report that Government had decided that the Bombay Weights and Measures Act, 1932, should be enforced from 1st August 1935 in the City of Bombay and ten districts and from 1st March 1936 in the remaining districts. During the year under report effect was given to these orders of Government.

114. **Staff.**—The Warden of Weights and Measures was appointed on 1st March 1935. The appointment of the Warden was followed by that of the Assistant Warden and the Senior Inspector. The Warden, Assistant Warden and Senior Inspector were trained at His Majesty's Mint.

Subsequent to the training of the abovementioned officers 41 Inspectors of Weights and Measures for the Presidency proper and 11 for Sind were appointed. These officers were trained in the nature of their work under actual working conditions. For this purpose a Weights and Measures Laboratory was set up on the ground floor of the Development Department Building in the Old Custom House Yard. The Inspectors also received training at His Majesty's Mint, Bombay. Arrangements were also made for their training at the premises of Messrs. W. & T. Avery Ltd. Each Inspector has under him one manual assistant and one peon.

The clerical staff of Weights and Measures Section at the end of the year under report consisted of five persons.

115. **Equipment and Laboratories.**—Traders' Weights and Measures Laboratories were set up in each of the districts during the

year. These are equipped with weighing and measuring instruments, and working standards. The Inspectors use this equipment in the districts to verify and stamp the traders' weights and measures etc. In each of the districts a set of secondary standards is also maintained. The Inspectors use these to verify the working standards once in six months.

A traders' Weights and Measures Laboratory was also set up in the basement of the Development Department Building, Bombay, for the verification of weights and measures etc. submitted by the manufacturers of and dealers in weights and measures.

For the work of periodic verification of secondary standards kept in the districts a Standards Laboratory was set up on the ground floor of the Development Department Building. This laboratory is equipped with weighing and measuring instruments, primary and secondary standards. The weighing instruments are very sensitive and were specially designed and manufactured for the accurate work that is to be carried out.

116. **Co-operation of Local Bodies.**—Government had decided to enforce the Act in the various districts with the co-operation of municipalities and district local boards. The procedure to be adopted in this matter was outlined in the note issued by Government under Government Resolution, General Department, No. 9518, dated 20th December 1934. During the year the following local bodies were accordingly authorised to keep working standards and appoint inspecting staff to work in conjunction with the Government inspecting staff of Weights and Measures: (1) Bombay Municipal Corporation, (2) Ahmedabad Municipality and District Local Board, (3) Broach District Local Board, (4) Surat Municipality and District Local Board, (5) Thana Municipality and District Local Board, (6) Bombay Suburban District Local Board, (7) Ahmednagar District Local Board, (8) West Khandesh District Local Board, (9) Nasik Municipality and District Local Board, (10) Poona Municipality and District Local Board, (11) Satara District Local Board, (12) Sholapur Municipality and District Local Board, (13) Belgaum Municipality and District Local Board, (14) Bijapur Municipality and District Local Board, (15) Hubli Municipality, (16) Dharwar District Local Board, (17) Ratnagiri District Local Board and (18) District Local Boards of Karachi, Dadu, Larkana, Sukkur, Nawabshah, Hyderabad, Thar Parkar and Municipalities of Karachi, Sukkur and Hyderabad in Sind.

117. **Prosecutions.**—No prosecutions were undertaken during the year under the Weights and Measures Act.

118. **Amendment of the Act and the Rules.**—On the eve of the enforcement of the Bombay Weights and Measures Act, Government received a number of representations from the public in connection with certain aspects of the Act and the Rules thereunder. After careful

consideration of these Government issued a note under their Resolution No. 212/33, dated 25th September 1935, giving their views and decisions. One of the difficulties pointed out in the representations was that unless some additional weights and measures are recognised under the Act the trading public will experience considerable difficulties.

As a result of these representations Government decided to amend certain sections of the Act and to this end a Bill was placed before the Legislative Council and passed into law. This empowers Government to recognise additional weights and measures and to exempt certain weights, measures, etc., used for any purpose other than trade.

The Bombay Weights and Measures Rules were also suitably modified and some new rules were framed to meet the requirements of the various trades in the Presidency.

119. **Expenditure and Receipts.**—The expenditure incurred in connection with the enforcement of the Act during the financial year 1935–36 and during the previous year was as under :—

	Recurring and non-recurring expenditure including Sind.
	Rs.
1934–35	97,924
1935–36	2,31,606

In addition to this expenditure, the various local bodies also incurred recurring and non-recurring expenditure on the purchase of equipment through this Department and entertainment of staff for which exact figures are not yet available.

The receipts credited to Government on account of the verification and stamping work carried out by Government Inspectors during the year amounted to Rs. 3,29,680. This figure, however, does not give a correct picture. The fees are to be collected from the public once every two years and it is probable that a majority of the traders have already got their weights etc. verified and stamped ; consequently collections during the 2nd year of the enforcement of the Act are likely to be lower. It must be further noted that the work of manufacturers of and dealers in weights and measures has been reserved to Government Inspectors. As the majority of traders had to discard their old weights and buy new weights and measures, the collections made by Government Inspectors may be taken to be higher than normal while those of the Inspectors of local bodies have been lower than may be expected at the time of re-verification.

It will be possible to give a correct picture of the receipts from fees accruing to Government and local bodies only after re-verification of traders' weights and measures is carried out after 2 years of the date of enforcement of the Act.

CHAPTER IX

WORK OF THE DEPARTMENT—MISCELLANEOUS

120. In the previous chapters the work of the Department in connection with organised industries, cottage industries, village improvement, fisheries, mines and minerals, technical and industrial education, and weights and measures has been dealt with. The Department does quite an appreciable amount of work which cannot be properly included under any of the above heads, and yet is of sufficient importance to be noted in the Annual Report. Work of this nature is, therefore, referred to in the present chapter.

WORK FOR OTHER DEPARTMENTS OF GOVERNMENT

121. (*a*) It was mentioned in paragraph 131 (*b*) of the Annual Report of this Department for the year 1934–35 that a comprehensive list of articles manufactured on a commercial basis in the Bombay Presidency together with the names and addresses of manufacturers was compiled and sent to the Director of Contracts, Army Head Quarters, Simla. During the year under review further information and particulars of new factories established and producing on a commercial scale in the Presidency were forwarded to the Director from time to time.

(*b*) The question of manufacturing dry ice at the Nasik Distillery from fermentation CO_2 was again referred to this Department by the Commissioner of Excise. A further detailed report in this connection was prepared and forwarded to the Commissioner. Some other references with regard to engineering questions pertaining to the Nasik Distillery were also dealt with by the Department.

(*c*) The Government Printing and Stationery Department indents from the Inspector General of Prisons its requirements of various types of cloths for supply each year to other Government departments. Difference of opinion arose between the indenting and supplying departments on the rates and quality of certain cloths required for the year 1936–37. The Director of Industries worked as a referee in the matter, examined the samples, rates etc. and settled the dispute.

(*d*) The work of carrying out a surprise check of the articles in stock at the office of the Superintendent, Government Printing and Stationery, Bombay, with the sealed samples was entrusted to this Department—*vide* Government Resolution, General Department, No. 7662, dated the 30th April 1930. This work was carried out for the fifth time during the year under review. The articles in stock were checked with the sealed samples received in this office from the Superintendent, Government Printing and Stationery, Bombay, and a detailed report was submitted to Government.

(*e*) The Superintendent, Government Printing and Stationery, Bombay, forwarded to this office from time to time samples of such articles as cloth, ink, typewriter oil, turbans, candles, etc., for test and report.

(*f*) The Court of Small Causes, Bombay, desired the assistance of a Mechanical Engineer in a dispute case pending before the Court pertaining to cereal shelling plant which was set up at Barsi. Two engineers, one on either side of the parties in dispute had examined the working of the machine but as their reports were divergent, they agreed that a third Engineer nominated by the Court should go into their reports, and advise the Court. For this the Court requested this Department to recommend a Mechanical Engineer with experience of such machines, who could undertake the work.

The Industrial Engineer of this Department was nominated by the Director. After going through the reports and other relevant papers and interviewing the two engineers of the disputant parties the Industrial Engineer as the arbitrator in the case gave the award.

(*g*) In the annual report for the year 1933-34 it was mentioned that investigations were carried out for the recovery of silver from waste hypo solutions at the Government Photo Registry Office, Poona. It was found that it was possible to recover silver profitably from these waste solutions. During the year under report a small plant for the recovery of silver was put up under the advice of the Industrial Chemist at the Government Photo Registry Office, Poona. In spite of the low price of silver ruling at present the recovery plant is showing a reasonably good return.

ACTS, LEGISLATIVE MEASURES, ETC.

122. The Department was requested to give its opinion on the following measures :—

Workmen's Compensation for occupational diseases.

Sickness Insurance for Industrial workers in India.

Holidays with pay.

Shop Assistants Bill.

MISCELLANEOUS ACTIVITIES OF THE DIRECTOR OF INDUSTRIES

123. During the year under review I was a member of the following bodies :—

The Bombay Legislative Council.

The Board of Trustees of the Prince of Wales Museum, Bombay.

The Bombay Smoke Nuisances Commission.

The Bombay University Board of Studies in Engineering.

The University Board of Chemical Technology.

Industrial Research Council, Government of India.

The Committee to consider applications for award of prizes offered by the Industrial Research Council, Government of India.

Board of the Model Industrial Home and School, Kandivli.

I worked as Chairman of the following institutions :—

The Board of Management of the Victoria Jubilee Technical Institute, Bombay.

Committee of Direction for Technical Education, Bombay.

CONFERENCES, COMMITTEES, ETC.

124. **Industries Conference.**—The Seventh Industries Conference of Ministers and Directors of Industries was held in October 1935 at Simla. I attended the Conference at which the schemes sanctioned by the Government of India for the development of the handloom industry, and sericulture industry were further reviewed. Other subjects of importance like Industrial Research and regulation of labour conditions in unregulated factories and workshops also came up before the conference.

125. **Industrial Research Bureau.**—Arising out of the conclusions reached at the Sixth Industries Conference held in Simla the Government of India decided to establish (*a*) Industrial Research Bureau and (*b*) Industrial Research Council. The first meeting of the latter body was held in Simla in July 1935. The Director of Industries and Mr. V. N. Chandavarkar, Bar-at-Law, Vice-Chancellor of the Bombay University and Chairman of the Bombay Millowners' Association attended the meeting as representatives of the Bombay Government. Among the important subjects discussed at the Council were (1) Co-operation in industrial research among Government laboratories, (2) Issue of pamphlets dealing with individual Indian industries, (3) Items of research to be undertaken by the Research Branch of the Government Test House, Alipore, Calcutta, (4) Research on glass manufacture, (5) Allocation of prizes, (6) Procedure for transmission of proposals for research and requests for information to the Bureau, (7) Industrial standardisation, (8) Co-ordination with Imperial Council of Agricultural Research.

As regards (1) the Council recommended the appointment of a Committee to survey the research already conducted and in progress on fatty oils, soap and essential oils and to advise on the co-ordination and allocation of future research to suitable centres. The Industrial Chemist of this Department was nominated as a member of the Committee. As regards (3) the Council recommended investigations on (*a*) paints, (*b*) portland cement, (*c*) lime and cement concretes, (*d*) dry cells, (*e*) sands and felspars, (*f*) vegetable oils as lubricants in internal combustion engines and (*g*) the possibility of using vegetable oils as fuels in internal combustion engines. Items (*f*) and (*g*) were undertaken at the suggestion of the Director of Industries, Bombay. In connection with these items, this Department forwarded to the Superintendent, Government Test House, Alipore, Calcutta, a few tins of local vegetable oils for trial and analysis. As regards item (*e*) samples of sand, sandstone and felspar

obtained from places in this Presidency were forwarded to the Test House for trials. Regarding item No. (4) the Council recommended investigation and survey of the glass factories in India. The Council further recommended at the suggestion of the Director of Industries, Bombay, that the Bureau might investigate the question of production of glass of different colours and relatively low fusing point suitable for the production of bangles on a cottage industry basis. This Department forwarded a note on the subject to the Industrial Research Bureau.

With regard to item No. (5) the Council appointed a Sub-committee to consider the conditions under which prizes should be offered for improvements in an industrial process or appliance. The Director of Industries was one of the members of the Committee. During the year under report various papers received from the competitors for the prizes were examined by the Director as a member of the Committee and his comments on the papers were communicated to the Bureau.

With regard to item No. (7) it was recommended by the Council that the Directors of Industries should be requested to obtain from consuming departments of their Government copies of specifications used by them and to forward them to the Bureau with their remarks. This question was considered carefully by the Government of Bombay in relation to their store purchase policy and the local store purchase rules issued by them from time to time and they came to the conclusion that it did not appear that any useful purpose was likely to be served so far as the Bombay Presidency was concerned by adopting the recommendation.

EXHIBITIONS

126. It is the policy of this Department to participate in the Presidency and District Industrial and Agricultural Shows by deputing its weaving and technical staff with a view to demonstrate improved methods in hand weaving and sizing, dyeing and printing, carding and spinning of wool and weaving of blankets, and weaving of carpets from cotton yarn waste, as may be necessary at a particular show or exhibition.

The principal shows in which the Department participated during the year were as follows :—

(1) The Asoda Show.—Here in addition to hand weaving by improved methods, processes relating to the extraction of lemon oil from lemons and preparation of Calcium Citrate from the juice obtained from discarded lemons were demonstrated.

(2) Pithoro Fair, Sind.

(3) Silver Jubilee Exhibition, Karachi.

(4) All India Hand Weaving Exhibition, Patna.—The Senior Weaving Assistant was deputed to Patna to demonstrate hand weaving by improved methods and implements with five weaving masters under him. The

party worked efficiently there and it obtained 2 silver and 6 bronze medals and 13 certificates of merit for different items.

(5) As mentioned elsewhere in this report the Department has done a good deal of work relating to improvements in the Gold and Silver thread industry of the Presidency. During their Excellencies' visit to Surat this year a local exhibition was organised of gold and silver thread embroidery work as well as gold and thread and fitments made by the Surat cottage workers. The exhibition was organised by the local Government Officers under the supervision of the Industrial Engineer of this Department. Her Excellency, Lady Brabourne was pleased to honour the Exhibition with a visit. After her visit the Exhibition was thrown open to the public.

The Department also brought to the notice of commercial bodies and others exhibitions due to be held in other parts of India and abroad.

LIBRARY

127. (1) A library is attached to the Department which contains over 4,500 books, publications, directories, etc. The library is being gradually added to so as to increase its usefulness to the Department and the public interested in industries. Some important technical journals are also regularly received in the Department. The library is open for reference to the general public at any time during office hours on working days. It is gratifying to note that members of the public are taking full advantage of this arrangement.

(2) **Patent publications.**—The Government of India decided to close down the inspection centre at the Victoria Jubilee Technical Institute, Matunga, Bombay, as it was felt that the Institute being far away from the business centre, very little use was being made of the specifications and patent publications and to transfer the inspection centre to the Office of the Director of Industries where there is a library of technical books open to the public and where the papers are likely to be made use of by the public as well as the Technical Officers of the Department of Industries. At the time of writing the Government of India also decided to close the inspection centre at the Record Office, Bombay, which was another centre and to transfer the specifications and other patent papers to the Office of the Director of Industries. These will be open for inspection by the public in the library of the Department.

CHAPTER X

STAFF AND EXPENDITURE

STAFF

128. I held the post of Director of Industries during the year under report. Mr. M. E. Haskell continued to work as Industrial Engineer, Dr. M. S. Patel as Industrial Chemist, Dr. S. B. Setna as Fisheries Officer,

Mr. B. Tayabali as Principal of the R. C. Technical Institute, Ahmedabad, and Mr. T. V. Lalvani as Warden of Weights and Measures. Mr. N. F. Mooraj joined his duties on the 16th May 1935 as Assistant Warden of Weights and Measures. Messrs. N. M. Shah and D. N. Savkur joined the Department as Marketing Officer and Textile Designer in June and September 1935 respectively. One Senior Inspector and 23 Inspectors of Weights and Measures were appointed during April and May 1935. In January 1936, 28 additional Inspectors were appointed. The other staff of the Department was the same as mentioned in the report of 1929–30 except five additional clerks for the Weights and Measures Section who were appointed towards the end of the year.

TOURING

129. During the year under review, I was out of Bombay for about 63 days. My tours were chiefly in connection with the meeting of the Council of Industrial Research, Simla, and Industries Conference, Delhi, and inspection of Weaving and Dyeing institutions of this Department, technical and industrial schools, working of the Weights and Measures Section and the various industries.

The Industrial Engineer was out of Bombay for 51 days. His tours were chiefly in connection with the gold thread demonstration work, organising of a Gold and Silver Thread Exhibition at Surat, Glass Bangle Cottage Industries, inspection of peripatetic weaving institutions of the Department, enquiries relating to the applications received for state-aid to industries and engineering problems of the Nasik Distillery.

The Industrial Chemist was out of the head quarters for about 38 days. His tours were in connection with the selection of a probable site for an aluminium plant, investigation of glass bangle industry, organisation of experimental station for the extraction of lemon oil and production of calcium citrate, attending the meeting of Oil, Soap and Essential Oils Committee, verification of consumption of Soda ash in glass industry in connection with the question of rebate on the import duty, examination of lead deposits in the Bhamaria estate, study of the cottage industries in the Panch Mahals and setting up of a plant for the recovery of silver at the Government Photo Registry Office.

The Fisheries Officer was out of Bombay for 35 days during the year under review. He inspected the fish curing yards in the Ratnagiri District in view of their pending transfer to this Department. He was also on deputation in the Madras Presidency where he spent 20 days familiarising himself with the work being done there on inland pisciculture and in connection with fish curing yards.

The Marketing Officer (Handloom Products) and the Textile Designer (Handloom Products) appointed in this Department under the Government of India Marketing Scheme for Handloom Products were

out of Head Quarters in connection with their duties of organising District Industrial Associations and introducing modern designs, patterns and marketable cloths for 114 and 55 days respectively.

During the year under report Mr. T. V. Lalvani, Warden, was on touring for 15 days in connection with the introduction of the Weights and Measures Act.

VISITS TO WORKS

130. The Director, the Industrial Engineer and the Industrial Chemist visited a number of concerns in connection with investigations in hand and the rendering of technical advice, etc.

EXPENDITURE

131. The expenditure incurred by the Department of Industries during the financial year 1935–36 and the four preceding years was as follows :—

	Rs.
1931–32	3,67,019
1932–33	3,37,069
1933–34	3,53,368
1934–35	3,43,564
1935–36	6,31,903

The above expenditure is in each case exclusive of that incurred on such activities as the Marketing of Handloom Products referred to in Chapter III and the demonstration parties described in Chapter IV covering the work of this Department under the Village Improvement Scheme. All these activities were financed from the Government of India grant.

The receipts during the year were Rs. 3,41,808 ; out of this sum Rs. 3,29,680 were realised from the fees collected by the Government Inspectors of Weights and Measures and Rs. 12,128 on account of the other activities of the Department.

CONCLUSION

132. The work during the year again increased very considerably owing to the enforcement of the Bombay Weights and Measures Act throughout the Presidency and the launching of such schemes as the Marketing of Handloom Products, Inland Fisheries, Tanning, etc., financed from the Government of India grant. The entire staff had to work throughout the year at great pressure. I am glad to record that every member of the staff both technical and clerical worked well and efficiently throughout the year.

Bombay,
22nd July 1936.

P. B. ADVANI,
Director of Industries.

APPENDIX I.

RECOGNIZED TECHNICAL AND INDUSTRIAL SCHOOLS IN THE BOMBAY PRESIDENCY (INCLUDING SIND) DURING THE YEAR 1935-36.

		Grants sanctioned in 1935-36.	
		Grant-in-aid (Recurring).	Equipment grant (Non-recurring).
		Rs.	Rs.
(1) Schools run by Local Bodies receiving grants-in-aid from the Department of Industries.			
1.	Municipal Technical School, Jacobabad	1,596	....
2.	V. J. Technical Institute, Sukkur	2,034	276 0 0
3.	F. S. Parekh Technical Institute, Surat	6,000	....
4.	V. J. Municipal Technical School, Poona	2,025	....
5.	Local Board Industrial School, Satara	998	....
6.	Robertson School of Industry, Pandharpur	798	....
7.	King Edward VII Technical School, Dhulia	3,924	....
8.	School of Industry, Ratnagiri	6,915	....
9.	Municipal Technical School, Sholapur	1,881	....
(2) Schools managed by private bodies receiving grants-in-aid from the Department of Industries.			
10.	Nadiad Industrial Institute, Nadiad	1,017	....
*11.	Salvation Army Boys' Industrial School, Kaira	540	....
12.	I. P. Mission Industrial School, Borsad	1,272	....
13.	Vocational Training School, Ankleshwar	774	9 8 0
14.	Mahajan Home Industrial School, Surat	640	....
15.	A. R. Sonawalla Industrial School, Bordi	1,040	....
16.	C. B. Mission Boys' Industrial School, Palghar	474	....
†17.	Mission Industrial School, Poona	1,080	57 0 0
18.	Sir D. M. Petit Industrial School, Sirur	743	....
19.	S. P. G. Mission Industrial School, Ahmednagar	1,870	....
20.	Salvation Army Boys' Industrial School, Ahmednagar ..	486	....
21.	St. Barnabas Industrial School, Manmad	1,250	....
22.	K. E. S. Topiwalla Industrial School, Alibag	1,439	....
23.	American Mission School for the Blind, Bombay	999	....
24.	D. C. Mission Industrial School, Bombay	260	....
25.	Textile Technical School, Parel, Bombay	1,300	....
26.	D. N. Poor Boys' Seminary Industrial School, Bombay ..	960	....
‡27.	American Wesleyan Mission Industrial School, Sanjan ..	351	....
§28.	S. A. Willingdon Boys' Home, Bombay	950	....
		43,616	342 8 0

(3) Recognised Schools.

(a) Schools managed by Local Bodies not rece ving grant-in-aid but recognised by the Department of Industries.

29. Thana School Board's Carpentry Classes, Dahanu.
30. Thana School Board's Carpentry Classes, Mokhada.
31. Thana School Board's Weaving Classes, Khardi.

(b) Schools managed by private bodies not receiving grant-in-aid but recognised by the Department of Industries.

32. Jadhav's Tailoring and Cutting College, Poona.
33. Pandharpur Electric Supply Company's Wiremen's Class, Pandharpur.
34. Bai Avabai Framji Petit Parsi Girls' Orphanage Hand Weaving and Dyeing and Printing Classes, Bandra.
35. Radio Electric Company's Wireless Classes, Bombay.
36. The J. N. Petit Parsi Orphanage Carpentry Class, Bombay.
37. The Victoria Tailoring and Cutting College, Poona.
38. The Marine High School Industrial Classes, Novha.
39. The Harijan Handicrafts Institute, Karachi.
40. The English Tailoring College, Vile Parle.
41. The Zarapkar Tailoring and Cutting College, Poona.

(c) Government Reformatory and Settlement Schools.

42. Yeravda Reformatory School, Yeravda.
43. David Sassoon Industrial and Reformatory School, Bombay.
44. Industrial Settlement School, Sholapur.
45. Industrial Settlement School, Bijapur.
46. Industrial Settlement School, Hubli.

(4) Government Technical Schools directly controlled by the Director of Industries, Bombay.

47. R. C. Technical Institute, Ahmedabad.

(5) Industrial Classes or Institutions recognised for Examinations only.

48. Parsi Hunnar Shala, Bombay.

Industrial Classes of the Municipal Vernacular Schools.

49. Byculla Marathi Central School, Byculla, Bombay.
50. Ghorapdeo Marathi Central School, Ghorapdeo, Bombay.
51. Khetwadi Marathi Central School, Khetwadi, Bombay.
52. Foras Road Marathi Central School, Foras Road, Bombay.
53. Lamington Road Gujarati Central School, Bombay.

54. Primary Handicrafts Class, Girgaon, Bombay.
55. Parel Marathi Central School, Parel, Bombay.
56. R. C. Mahim Urdu School, Mahim, Bombay.
57. Lady Jamshedji Road Marathi School, Dadar, Bombay.

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* The school was transferred from Anand to Kaira.

† This school was formerly known as Empson Workshop and Industrial School.

‡ This school could not cash its bill of grant-in-aid in time and was paid from 1936-37 grants.

§ The grant-in-aid to this school is debitable to 31-Education (Reserved).

Note.—Recognition of Nos. 40 and 41 to take effect from 1st April 1936.

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Review on —.

GOVERNMENT OF BOMBAY.

General Department.

Resolution No. P. 73.

Bombay Castle, 8th January 1937.

RESOLUTION OF GOVERNMENT.

The general industrial outlook during the year was not, Government regret to note, very bright. It is true that the condition of the cotton textile industry, the premier industry of this Presidency, had the good fortune to register a slight improvement and an increase in its total output and that a few other industries such as hosiery, chemicals, matches, paper, cigarettes, etc., did fairly well during the year under report, but, on the whole, the year (1935–36) did not show marked progress over the previous year in either trade or industry.

2. The Department of Industries continued to do good work in giving help to those small-scale industries which were likely to be benefited thereby. During the year under report the Department carried out practical investigations, and conducted experiments and demonstrations for the benefit of several of the established small industries of the Presidency, such as the real gold thread industry and the cashewnut shell oil industry. It also rendered similar help to prospective new industries, such as those concerned with the production of peppermint oil, aluminium sulphate, aluminium, lemon oil and calcium citrate. The Department also deserves to be congratulated on the assistance given by it to local manufacturers in the solution of some practical difficulties. Many new concerns were visited by a member of the staff of the Department and were given, when required, such expert advice as was necessary. Many of them were recommended to the several purchasing authorities. In some cases the questions of customs duty, cheap raw materials and other facilities were taken up by the Department with the authorities concerned on behalf of the factories. In addition, the Department proved a useful clearing house of commercial and industrial intelligence.

3. The Department of Industries continued, as before, to devote serious attention to cottage industries. It carried on its propaganda of

helping and advancing hand-weaving, which is the premier cottage industry of the Presidency, by means of its weaving schools and demonstrations. An interesting feature of this part of the Department's activity is its weaving schools for agriculturists. These are maintained exclusively for agriculturists to train them in hand-weaving by improved methods so that they can earn something during their spare time. It is encouraging to note that these schools are gaining in popularity.

4. The want of good marketing facilities used to be a serious handicap to the handloom industry. It has now been possible, thanks to the grant given by the Government of India, to help the hand-weavers in marketing also. The scheme prepared for this purpose provides for the establishment of four District Industrial Associations in this Presidency. The principal aims and objects of these Associations are :—

(*i*) to supply improved appliances on the hire purchase system or otherwise,

(*ii*) to supply raw materials at reasonable rates,

(*iii*) to advise weavers and others in regard to the production of improved and easily marketable patterns and designs,

(*iv*) to undertake preparatory and finishing processes, and dyeing and printing in connection with handloom industry,

(*v*) to accept on consignment accounts against partial payments handloom products from weavers and to purchase outright handloom products and sell them.

Three such Associations have already started work at Poona, Ahmednagar and Hubli and during their short existence have shown profits in their transactions. A fourth Association will shortly start operations at Ahmedabad. Two new posts of a Marketing Officer and a Textile Designer were also created during the year under review, the former to supervise the working of the above Associations and the latter to help the weavers in devising new, attractive and marketable designs.

Government note with satisfaction that the public are taking advantage of the scheme sanctioned by them during the year under report for granting loans to small industries.

5. In order to help the improvement of the village tanning industry, the Department of Industries has trained two Tanning Demonstration parties under a Tanning Expert. These parties are now available for training village tanners in improved methods and Collectors have been requested to utilise the services of these demonstration parties. Experiments in another scheme, viz., that of Inland Fisheries have been started by the Department with the ultimate object of benefiting rural areas. Both these schemes, which were started with the Government of India grant for village uplift, will now have to be financed from provincial revenues, if

funds permit. Other schemes prepared by the Industries Department which will be beneficial mostly to the village population of this Presidency are :—

(1) Development of hemp manufacture ;

(2) Development of the village vegetable oil industry ;

(3) Drying of mango pulp ;

(4) Bone-crushing for manure ;

(5) Pottery glazing by ceramic colours ;

(6) Improvement in glass bangle manufacture.

The first three schemes were recommended to the Imperial Council of Agricultural Research for sanction of funds but they were not accepted by it. The question of conducting experiments and demonstrations in connection with these industries will be considered by Government as funds permit. Investigations in connection with the fourth industry are not yet complete. Demonstrations in the last two industries are being successfully carried on by the officers of the Industries Department. The Industrial Engineer who had been to England recently visited glass factories there in order to study up-to-date processes. Further improvements will now be introduced by the Industrial Engineer in glass manufacture.

6. With effect from 1st April 1931 the control of Technical and Industrial Education in the Presidency was transferred from the Director of Public Instruction to the Director of Industries. There were in the Presidency, during the year under report, nine Government-aided institutions maintained by public bodies, nineteen Government-aided private institutions, eighteen other institutions not in receipt of a grant but recognised by the Department of Industries, ten institutions recognised for examination purposes only and one solely Government institution. The last is administered and controlled by the Department of Industries itself. The Department maintains touch with the other institutions through the Committee of Direction for Technical Education. During the year under review the Department, on the recommendation of the Committee of Direction for Technical Education, sanctioned grants-in-aid to the various technical and industrial schools amounting to Rs. 43,616. The Victoria Jubilee Technical Institute, Bombay, is the premier technical institution in the Presidency and stands in a class by itself. The Director of Industries was appointed Chairman of the Board of Trustees of the Institute during the year under review. Candidates from different parts of India apply for admission to this institution. The R. C. Technical Institute, Ahmedabad, is the important technical institution maintained by Government. While the standard of instruction attained in this institution is lower than at the Victoria Jubilee Technical Institute, Bombay, it is higher than at the other technical schools in the Presidency. The Department of Industries awards each year a number of scholarships

tenable at the Victoria Jubilee Technical Institute, Bombay, R. C. Technical Institute, Ahmedabad, F. S. Parekh Technical Institute, Surat, and the Government Hand Weaving Institute, Poona. Scholarships are also given to the students of the peripatetic weaving schools in the Presidency. In addition, ordinarily, three scholarships are awarded for research in Technical Chemistry and two for practical experience in Electrical Engineering. Owing, however, to financial stringency, the number of these scholarships was reduced to two and one respectively during the year under review.

7. The question of unemployment among educated young men has been engaging the attention of Government and the Department of Industries for some time. A general scheme providing suitable vocational training for relieving unemployment among the better educated classes will soon be launched. The scheme has been prepared by the Director of Industries. It has been sanctioned by Government with effect from the year 1937–38. The scheme contemplates the acceptance by a number of industrial establishments, for practical training for about five years, of boys who have reached the 7th English standard. The boys will also attend theoretical technical classes in the evenings during the whole period of their training and will, after the training is over, be absorbed into the industries concerned. In the first year about 275 boys will be taken up for training in Bombay and about 150 in Ahmedabad. The continuance of the scheme will depend upon the vote of the new Legislative Assembly.

A scheme for two Trade Schools, one in tailoring and the other in leather working, has also been prepared and the schools will be started if the Legislative Assembly sanctions the necessary funds for them.

8. During the year under report effect was given to the Bombay Weights and Measures Act, 1932. A Warden of Weights and Measures was appointed on 1st March 1935. This appointment was followed by the appointment of an Assistant Warden and a Senior Inspector. The Warden, Assistant Warden and Senior Inspector were trained at His Majesty's Mint. These three officers are assisted by a staff of Inspectors—41 in the Presidency and 11 in Sind—who were trained in the Weights and Measures Laboratory set up in Bombay and at His Majesty's Mint, Bombay.

Traders' Weights and Measures Laboratories were set up in the districts during the year. These are equipped with weighing and measuring instruments and working standards. The Inspectors use this equipment in the districts for verifying and stamping traders' weights and measures. In each of the districts a set of secondary standards is also maintained for the purpose of verification of working standards by Inspectors.

No prosecutions were undertaken during the year under the Weights and Measures Act.

gitized with financial assistance from th
Government of Maharashtra
on 20 July, 2017

9. In spite of the general trade depression, its limited resources and other handicaps, Government are pleased to note that the Department of Industries has been able to render a very good account of itself. The whole of the report for 1935-36 makes instructive reading and the thanks of Government are due to Mr. P. B. Advani, Director of Industries, Bombay Presidency, and to the establishment working under his direction.

By order of the Government of Bombay
(Transferred Departments),

H. T. SORLEY,
Secretary to Government.

To

The Commissioner, Northern Division,
The Commissioner, Central Division,
The Commissioner, Southern Division,
The Commissioner of Excise, Bombay,
The Director of Industries,
The Director of Public Instruction,
The Collector of Salt Revenue,
All Collectors,
The Director of Agriculture,
The Registrar of Co-operative Societies,
The Chief Conservator of Forests, Bombay Presidency,
The Superintendent, Government Printing and Stationery,
The Manager, Government Central Press,
The Accountant General, Bombay,
The Director of Information,
The Oriental Translator to Government,
The Private Secretary to His Excellency the Governor,
The Revenue Department,
The Educational Department,
The Public Works Department,
The Finance Department,
The Home Department,
The Government of Sind (by letter),
The Government of India (by letter).

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